



OFFICE,

COLONIAL BUILDINGS—44A CANNON STREET, LONDON, E.C.

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We issue our annual grand American circulation next month. Specimen copies will be sent to all the best pharmaceutical firms throughout the United States. The opportunity is a valuable one for British firms to make announcements of their specialities and manufactures. No extra charge for advertisements.

The Committee on the Sale of Food and Drugs Bill has been postponed again and again in the House of Commons. It is fixed for this night (the 15th), but as the Budget is to come on to-night the Bill will in all probability stand over till Monday or later. A large number of amendments are to be considered. The most important may be briefly summarised. Dr. Cameron and Dr. Lyon Playfair will propose the omission of the word "knowingly" in the clauses which provide against the admixture of deleterious ingredients with articles of food or drugs, and also the sale of such adulterated articles. The Government has withdrawn the exception which it was at first proposed to allow in favour of mixtures in accordance with the usage of the trade; but such harmless matters or ingredients may be required to render an article of food portable or palatable, or as will improve its appearance, or extraneous matter unavoidably mixed with a drug in the process of collection or preparation, is permitted by the Bill. Dr. Cameron objects to the exception allowed for the purpose of improving the appearance. Mr. Alexander Brown wishes it to be permitted to sell mixed substances if supplied from a vessel or receptacle clearly marked so that the purchaser may see it, regardless of labelling the package. Mr. Sandford, however, wishes that mixed substances should be labelled, and that the label should state the nature of the mixture. Of the remaining amendments we may refer to one by Dr. Lyon Playfair, which would prevent the appointment of any person as public analyst "engaged in the trade of buying or selling any article of food or drugs;" and to those by Mr. Munz and Sir Henry Peek, who wish to appoint the Inland Revenue Laboratory as referees in cases of dispute, "whose certificate shall be final." Dr. Cameron, however, will object to these latter words.

At the monthly meeting of the Pharmaceutical Council, on the 7th inst., it was resolved that a letter of condolence should be addressed from the Council and the Board of Examiners to Mr. and Mrs. Hanbury, sympathising with them on the occasion of "the great loss of their persevering, industrious, and talented son," as Mr. Hills described him, the late Daniel Hanbury. The President and Vice-president, and Messrs. Sandford, Schacht, and Williams, united in expressing their keen appreciation of the deep loss which both English and European pharmacy had thereby suffered.—After the reception of some reports the Council came to a discussion respecting the new

Adulteration Bill. Mr. Sandford reported the result of an interview with Mr. Clare Read, from which it appeared that the Government intended to insist on the retention of the provision requiring proof of a dealer's knowledge of adulteration before he could be convicted. The Government did not, therefore, think it necessary to mitigate the very severe penalties proposed to be inflicted in the event of conviction. They were also not disposed to accept Dr. Playfair's objection to the appointment of traders as analysts. Mr. Savage proposed to memorialise the Government again on the subject of the mitigation of penalties, while Mr. Schacht wished to urge on them the separation of drugs from food and distinct legislation in the two cases. After some discussion Mr. Savage's proposal was carried, and a committee was appointed to carry it into effect if they should deem it advisable, it being understood that Mr. Sandford should first see Mr. Slater-Booth on the subject. The committee consisted of Messrs. Hills, Bottle, Williams, Greenish, Hampson, and Sandford.—Next, the question of the Preliminary Examination was treated, and Mr. Atherton moved that after the present year the questions should be prepared and reported on by the College of Preceptors, instead of by the Pharmaceutical Examiners, as at present. The proposal seemed to meet with general acquiescence, and was carried by 15 votes to 2.—A memorial from certain Glasgow and West of Scotland chemists was next read, urging some modifications in the examination system. The memorialists considered that the present regulations had done much to estrange young men from the business, and they complained also that the method of appointing examiners in Scotland had not been fair to the great body of qualified pharmaceutical chemists throughout the country. They advocated (1) that candidates should be allowed to try twice for one fee, and that at a second attempt they should be examined only in such subjects as they had failed in the first time; that (2) a proportion of the examiners should retire by rotation annually, and new members should be selected from a wider area, than at present; and that (3) examinations should be held at least twice a year in Glasgow. Mr. Mackay replied to this memorial with pain and regret. No intimation had been given to the Edinburgh Board that such feelings existed in Glasgow, nor had any opportunity been given of discussing the subjects mutually. He did not see the possibility of reducing the fees, as at present they were not paying the cost of examinations. As to the appointment of examiners the difficulty had been to secure competent men willing to serve. As to carrying about the examinations from place to place, it should be remembered that a laboratory and costly appliances were required, and if they once began to multiply centres it would be difficult to stop. Mr. Fraser, on the part of the Glasgow memorialists, announced that at next meeting he would move that the matter be referred to the Law and Parliamentary Committee.

Pharmacy has lost one of its brightest ornaments by the death of Mr. Daniel Hanbury at the early age of 49. We publish in this number a sketch of Mr. Hanbury's life and work, and in our next we hope to present a portrait of him.

The Chemists' and Druggists' Society of Ireland have prepared a Bill which they have submitted to Sir M. H. Beach, the Irish Secretary, and to Mr. Errington. Its object is to form an independent Pharmaceutical Society for Ireland. They have secured a goodly array of influential names in its support, but we imagine that unless they can show some good reason they will have difficulty in persuading the British Parliament of the desirability of authorising the existence of two societies in the empire with precisely similar duties.

At the Pharmaceutical Examinations held on March 17 seven out of eight candidates passed the Major examination, but only ten out of twenty-one were successful in the Minor.

At a final meeting of the Local Committee appointed to arrange for the meeting of the British Pharmaceutical Conference in London last year, held yesterday (the 14th inst.), it was stated by Mr. Carteighe, the local secretary, that a surplus of 68*l.* 15*s.* 4*d.* remained after all expenses had been paid. After some discussion it was believed that the wishes of the subscribers would be best met by presenting this sum to the Pharmaceutical Benevolent Fund, that fund being distributed to the entire trade; and a resolution to this effect was unanimously carried. Cordial votes of thanks to Mr. Carteighe, Messrs. Davies, Holmes, and Glasse, and also to the press, were also carried.

Dr. Hofmann, of Berlin, delivered the triennial Faraday lecture before the Chemical Society on March 18. There was a brilliant audience, including, besides the chiefs of science, the Prince of Wales.

His Royal Highness indicated the many-sidedness of his character and tastes by being present the next morning, about five o'clock, at a grand fire in the Strand which completely destroyed Mr. Rimmel's export warehouse.

A remarkable instance of recovery from strychnine poisoning, four grains having been taken, is reported in a recent issue of the *Lancet*. We give the facts in another column. Liebreich indicated the counter action of chloral, which was the antidote employed in this case, some three or four years ago.

A messenger in the Bankruptcy Court, Dublin, a Mr. James S. Marsden, was killed recently under curious circumstances. He was preparing some oxygen gas at home for the purpose of a magic lantern exhibition, and had procured from the Apothecaries' Hall of Dublin what was supposed to be oxide of manganese and chlorate of potash. He mixed some of these substances and put the mixture into an iron retort. Almost immediately after applying heat to the retort a violent explosion occurred. Mrs. Marsden was seriously injured, and her husband, though able to walk to a surgeon's, died two days afterwards from blood-poisoning. It was shown in evidence that sulphuret of antimony had been supplied in mistake for oxide of manganese, and a verdict to this effect was returned by a jury at the coroner's inquest held on April 3.

A firm of chemists in the Borough have been fined the mitigated penalty of 12*l.* 10*s.* for supplying half a pint of methylated spirit, they not being licensed to sell it. Another chemist, in the Old Kent Road, has also been subjected to a similar penalty on the same ground.

At the Liverpool Assizes, on April 2, Alfred Thomas Heap, described as a chemist and druggist, of Gorton, Manchester, was found guilty of wilful murder, he having occasioned the death of a young unmarried woman at Manchester on the 16th ult. by causing her certain injuries. The prisoner had previously served five years' penal servitude for a similar offence. The jury strongly recommended him to mercy. Sentence of death was pronounced in the usual form.

We report a case of special interest to aerated water makers, The St. Pancras Vestry prosecuted a manufacturer for allowing the refuse, that is, the sulphate of lime resulting from his works, to pass into the sewers. It was stated that by decomposition sulphuretted hydrogen was produced in the sewers, and though opposing scientific evidence was brought to rebut this theory, the magistrate decided against the manufacturer, and ordered the nuisance to be discontinued.

We direct the particular attention of manufacturers of English chemicals and sundries to the notice we publish in this issue respecting the Philadelphia Exhibition. Application for space must be made to the British Commission not later than April 25.

A young pharmacist who doubted his ability to pass the Preliminary Examination tried to corrupt one of the pharmaceutical printers, and obtain from him a copy of the examination paper. The printer gave information to his employers, and, acting under instructions, snared the youth into the actual transaction. After proving the case, however, the Pharmaceutical Society, with the magistrate's concurrence, withdrew from the prosecution, and no punishment resulted on this occasion. A similar delinquency, some time back, prosecuted by Apothecaries' Hall, involved the culprit in twelve months' imprisonment. We trust no other candidates will be mad enough to risk this system of preparing for examination.

## MR. PETER SQUIRE.

OUR portrait gallery would be singularly incomplete if a sketch of the well-known "Chemist to the Queen" were not included in the series. Mr. Squire has engraved his name deeply on the annals of pharmacy, and has done more for its advancement than some of us almost half a century his juniors may have thought possible previous to our advent. He has reached the highest platform of his profession, but his success has been no accident. A genius for work—untiring, painstaking work—is the secret of it, and this is the marked characteristic of Mr. Squire's history. In this respect Squire ranks with Morson and Deane, whose lives we have sketched before in these columns, and it would be difficult to pay him a higher compliment.

Peter Squire was born in Bedfordshire, in 1798, and was educated at Aspley School, in the same county. At the age of 14 he was bound apprentice to a chemist and druggist at Peterborough. Hard work was not exactly a matter of choice with apprentices in those days, and few of them, we imagine, could complain at the end of their terms that they had not been taught their business in a sufficiently practical manner. The Israelites in Egypt were not more carefully trained in the art of brickmaking than were country druggists' apprentices drilled into the details of pharmacy as it then existed. Long hours of shop work, however, were not enough to satisfy young Squire. He had a strong fancy for botany, and having purchased a copy of the folio edition of Sir John Hill's "Herbal," a work arranged on the Linnean system, he set to work to study it systematically. His "time allowed for study" was previous to 7 A.M., at which hour business commenced. At that period of the morning, or, as we should now call it, night, therefore, he rummaged the fields and ditches round Peterborough, and thus laid the foundation of that botanical skill which afterwards made him so terrible an examiner to those candidates for pharmaceutical honours who "had never been able to see the use of botany."

The apprenticeship completed, he spent a few months with his master, and then, through the influence of the "Master Warden of Apothecaries' Hall (John Bakr)," obtained a situation in the house of Wilson, Minshall & Co., of Snow Hill, where he soon took the lead of the "wet" department, and became supervisor of the laboratory. Three years later, by aid of the same influence, he received a better appointment in the "dry" department in the firm of Hodgkinson, Brandram & Stead. These situations gave Mr. Squire a wide and thorough acquaintance with the *Materia Medica* and with the quality of drugs generally. On leaving the house in Thames Street he was



# THE CHEMIST AND DRUGGIST PORTRAIT GALLERY.

XV.



*James truly  
P. Squire*

MR. PETER SQUIRE.

YEALING, THOMAS, 17, SOUTH, JOHN, STRENGTH, JUL

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introduced to Alexander Garden, partner with the well-known Frederic Accum, and lived with him eight years. In the course of that time he became partner with Mr. Garden. At this time Mr. Squire entered vigorously into the study of chemistry, practising it experimentally, and attending the lectures of Brande and Faraday at the Royal Institution, which were given from 8 till 9 A.M.

The partnership having expired, and Mr. Garden's son joining his father in the business, Peter Squire pleasantly finished his pharmaceutical education by spending three months in Paris. M. Bertin, the physician to the French Embassy, introduced him to M. Beral, pharmacien, in the Rue de la Paix, who allowed him to attend at his pharmacy whenever he pleased, in order to obtain an insight into French practice.

After this, about the year 1831, he purchased the business of which he is still the head from a Mr. John Scott, who had owned it for the previous forty years. He now turned his attention to the improvement of medicinal extracts, which, at that period, were scarcely creditable specimens of pharmaceutical skill. They were remarkable chiefly for a strong family likeness, and a collection of them would have harmonised, as far as external characteristics were concerned, almost as much as a collection of homeopathic globules of the present day. Mr. Squire applied himself, therefore, to the production of extracts more closely resembling the plants from which they were obtained. Being fully occupied in business from 7 A.M. till 11 P.M., he had to make his experiments at the time when even "churchyards yawn," and he worked at them often until 2, 3, or even 4 o'clock in the morning. But the result was that he introduced for the first time a set of true extracts, characterised by the peculiar odour and colour of the plants they represented. He next turned his attention to the dried leaves and the tinctures from them, and conceived the idea that the juices preserved as soon as pressed out, with only just enough spirit to keep them from change, might prove superior to the tinctures and extracts, as the leaves of plants during the process of drying, and the juices during the evaporation to an extract, must undergo some change. He, therefore, made some such preparations of belladonna, conium, digitalis, hyoscyamus, and others, and induced some medical friends to try them. The excellence of these preparations was abundantly manifest, and they are now a recognised class in the British and in many foreign pharmacopoeias. These and such like labours bore their fruit, and brought to Squire's shop many members of the medical profession. Among these was Dr. (afterwards Sir James) Clark, who was no mean judge of pharmaceutical preparations. He made many visits *incognito*, and examined Squire's preparations with considerable interest. It afterwards turned out that he had resolved to appoint a chemist instead of an apothecary to dispense the medicines for the Queen, assuming that a man who had devoted himself to the study of drugs and pharmacy must be better qualified to select and dispense them than one whose education had been chiefly concerned with the art of prescribing them.

One day Dr. Clark sent for Mr. Squire, and said, "I have made the necessary inquiries about your general character, and now I wish you to sit down and give me an account of your education, and where you acquired the knowledge of your business." Soon after this Peter Squire received a prescription for H.R.H. the Princess Victoria, and the next year, 1836, was expressly appointed as her chemist. In 1837, when the medical staff of the Queen was officially published in the *Royal Gazette*, the name of Peter Squire appeared as chemist in ordinary on the establishment. This year will therefore complete the fortieth year of his service. Appointments to the several members of the royal family have since been given him.

Mr. Squire was one of the founders of the Pharmaceutical Society, and was an examiner from the first until 1869, when

he retired. On his resignation a document was presented him signed by every member of the Board, and thus inscribed:—"The Board of Examiners desire to place on record their high appreciation of the valuable services rendered by their esteemed colleague, Mr. Peter Squire, in organising and so ably carrying forward the important work of examination from the very first meeting of the Board, in July, 1842, to the present time, June, 1869."

He was thrice elected President of the Pharmaceutical Society, and in the last year of his presidency succeeded, with the aid of other members of the Council, in getting a clause inserted in the Juris' Act exempting pharmaceutical chemists from jury service. This exertion nearly cost him his life. Sir Thomas Watson insisted that he should neither read nor write, and sent him to the seaside, where by strictly following his advice he recovered.

Having gained much confidence among eminent members of the medical profession, Mr. Squire has often been applied to by many of them for assistance in their investigations.

He contrived the apparatus by which ether was administered for the first capital operation in this country, performed by Mr. Liston at University College Hospital. The apparatus is now in the museum of that Hospital.

He worked with Dr. Stevens in 1832 in the examination of blood, with a view to the source of animal heat and the way in which carbonic acid was formed and got rid of by the lungs in respiration.\*

He also worked with Dr. Marshall Hall in his experiments to recover the drowned, and with Alexander Naysmith, when the finest ramifications of the structure of the teeth were made manifest by first injecting a solution of iron and following it with a solution of ferrocyanide of potassium.

He succeeded in taking out some deep-coloured stains of iron from four fine medallions of Carrara marble (found in Windsor Park) without injury to the texture, which Sir Francis Chantry had thought impossible.

Mr. Squire was a founder of the College of Chemistry, and also of the Royal Botanic Gardens; is a fellow of the Linnean Society, and a member of the Royal Institution. He was a member of the International Congress held in London under the presidency of the Prince Consort, when it was arranged that the metrical system should be used in international communication.

He is the author of the "Three Pharmacopoeias Compared" (1851), the "Companion to the British Pharmacopoeia," and "The London Hospitals."

The first of these was written with the view of showing the alarming difference that existed in the strength of preparations bearing the same name in London, Edinburgh, and Dublin. A prescription written in London, and made up in Dublin 12 hours afterwards, might, in the case of acetum colchici, for example, have three times the power the prescriber intended. This, in days of railway travelling, was considered a great evil, and almost the first step of the Medical Council was to resolve upon having a National Pharmacopoeia, which should supersede those of London, Edinburgh, and Dublin.

A committee for this purpose was appointed, and the Pharmaceutical Society being requested to send a delegate, Mr. Squire was chosen to represent that body.

Believing that some day an International Pharmacopoeia, or something approaching to it, may be brought about, he compared in his "Companion to the British Pharmacopoeia" the strengths of the preparations in the British with similar preparations in the Austrian, Belgian, French, Prussian, and United States' Pharmacopoeias; and in order to further this view as much as possible, he exhibited the preparations of the

\* "Royal Soc. Trans.," vol. 125.



British Pharmacopœia at the French Exhibition of 1865, and thereby gave those on the Continent who were interested in pharmacy an opportunity of judging of them. After the Exhibition was over, he presented the collection to the Royal College of Physicians.

Squire's "Companion to the Pharmacopœia" is perhaps the most popular and most useful work ever written by a pharmacist. It is marked by that minute care in detail which has characterised all its author's labours, and its widely extended fame is due to its practical merits. In his remarks on the various preparations, Mr. Squire has condensed the intelligent work and diligent study of half a century. Last year, at the age of 76, he revised the book, and published the 10th edition so adapted as to include notices of the new preparations in the Addendum then just issued.

Mr. Squire is still, we are glad to say, hearty and vigorous. He has not of late taken an active part in public pharmaceutical affairs, but his name is among the list of vice-presidents of the British Pharmaceutical Conference who have not passed the chair. We are quite certain that if it should please the committee of that flourishing society to place Mr. Squire at their head after next meeting, this Nestor of British pharmacy will receive a welcome as cordial as his eminent merits would demand.

#### DUTY ON PHARMACEUTICAL SPECIALITIES IN FRANCE.

ON March 15 M. le Vicomte de Lorgeril presented to the Chamber of Deputies his proposition to tax pharmaceutical specialities, which was referred to the Budget Committee, and will probably be incorporated among the means of raising revenue. M. de Lorgeril prefaced his bill with a rather lengthy but not uninteresting preamble, or *exposé de motifs*, from which some items may be gathered. He told first what difficulty he had had to collect exact details respecting the trade in these specialities from the parties interested. During the last fifty-years, he said, the business had vastly extended, not only in France but throughout the world, for "our products," he added, with a flush of national pride, "penetrate everywhere." Dr. Véron, the proprietor of the *Pâté de Regnaud*, was credited as the pioneer of this movement. His success aroused the emulation of other specialists, and a wide field was soon opened. The regular physicians were alarmed. They combated energetically for a while this systematic but unscientific method of treating diseases, but they were beaten, and the majority of them gradually fell into the habit of prescribing and even of compounding specialities themselves. This unfortunate result, M. de Lorgeril thinks, has proved most detrimental to the study of the *materia medica*, and he argues that the government would have been justly entitled to check the growing commerce. But if this is no longer possible, then he thinks the next best thing is for the Treasury to demand a share of the profits. Hence this proposal.

"It need not be feared," continues the document, "that in taxing this business any injury will be done to true science. The specialists, by the introduction of their unauthorised traffic into pharmacy, have taken from it a part of its high scientific mission, and its decay is so imminent, so clearly foreseen, that the special School of Pharmacy, growing almost useless, is now threatened with annexation to the School of Medicine. Besides, such are the enormous profits made by these specialists, that if the State seeks to gain from them an addition to its revenue, it will only touch an almost imperceptible portion of the fortunes so rapidly and curiously accumulated."

M. de Lorgeril tries to prove too much. Surely if the first part of his argument is just, he places the trade in pharmaceutical specialities on the same level as gambling saloons; and the French Government has honourably and persistently refused to connive at these for the sake of any amount of revenue whatever.

Now to come to some definite statements. We are told that

as a rule the cost price of these preparations does not average more than a tenth of the selling price. The following instances are given:—

#### OFFICIAL REMEDIES.

A calming draught, sold by pharmacians at 1 fr. 20 c., is thus composed:

	Cost
Syrup Diacordium, 30 grms. . . . .	0-08
Orange-flower water, 4 grms. . . . .	0-01
Distilled water, 120 grms. . . . .	0-01
	0-10

A bottle of seidlitz water, sold at 1 fr. 20 c.

Sulphate of Magnesia, 50 grms. . . . .	0-04
Tartaric Acid, 4 grms. . . . .	0-02
Bicarbonate of Soda, 5 grms. . . . .	0-01
Water, 500 grms. . . . .	0-01
	0-08

A white looch of the Codex, sold at 1 fr. 20 c.

Almonds, 24 . . . . .	0-05
Truquemaith, 80 c. grms. . . . .	0-01
Orange-flower water, 5 grms. . . . .	0-01
	0-07

#### SPECIAL REMEDIES.

A roll of chemical paper, sold at 2 frs.

White Paper, 1 sheet . . . . .	0-02
Plaster . . . . .	0-05
	0-07

A box of 50 purgative pills, formula D., sold at 5 frs.

Aloes, 5 grms. . . . .	0-02
Scammony, 4 grms. . . . .	0-25
Resin of Jalap, 1 grm. . . . .	0-10
	0-37

An injection, formula B., sold at 4 frs.

Sulphate of Zinc, 2 grms. . . . .	0-01
Tannin, 4 grms. . . . .	0-10
Sydenham's Laudanum (quantity not given) . . . . .	0-08
Water, 200 grms. . . . .	0-01
	0-20

The above estimates do not reckon bottles, wrappers, &c.

These instances might be indefinitely multiplied. They are given to show what rate of profit is made on these pharmaceutical specialities. The *exposé* next goes on to show the principles on which the taxing should proceed, and what revenue might be anticipated from it. M. de Lorgeril estimates the number of pharmacians, druggists, herbalists, and such like in France at 25,000, and he reckons an average of 10,000 frs. (400*l.*) each, as their annual receipts. Thus he assumes that 250,000,000 frs. are annually taken in France for physic sold at shops. Of this he reckons more than a third is spent for specialities, and considering that each pharmacist presses his own product to the utmost extent, he brings his estimate of the annual sale of these specialities to 125,000,000 frs. in France alone. He adds 5,000,000 frs. for specialities sold by country doctors direct, and 20,000,000 frs. for those exported.

Now the question remains, how much can the State fairly get out of these 150,000,000 frs. for itself. M. de Lorgeril proposes to divide the specialities into three classes, and apply a different rate of duty to each.

The first series is to be taxed at 10 per cent., and would include all the medicines approved by the Academy of Medicine—salts for medicated baths, farinaceous foods, &c.

In the second series, to be rated at 15 per cent., are named the phenols, benzines, glyceroles, medicated biscuits, elixirs, and sarsaparillas.

The third series, with a tax of 20 per cent., is to include foreign specialities, hygienic and toilet preparations, gout remedies, balsams, bonbons, &c.

Not without justice, it is added that mineral waters and aerated waters might also be taxed in a similar way, seeing that these are purely articles of luxury. One halfpenny on each bottle or syphon, it is reckoned, would produce not less than 6,000,000 frs. a year. Calculating the whole, M. de Lorgeril estimates that his proposal would yield a sum of 35,000,000 frs. annually to the revenue.

## DESTRUCTION OF MR. RIMMEL'S EXPORT WAREHOUSE BY FIRE.

ON the morning of March 19 the export warehouse connected with Mr. Rimmel's perfumery factory, in the Strand, was totally destroyed by fire. The sketch which we give is from a photograph taken soon after the fire, and shows how completely the ruin was consummated. The factory was locked up, after being examined as usual by two firemen in the employment of Mr. Rimmel, at twenty minutes to eight on the evening of the 18th. It was not till nearly four the next morning that a fire was observed in the left-hand basement corner. In a quarter of an hour several engines were on the spot and at work, and two floating machines on the Thames were also employed, by means

of a communication laid on across the Embankment. The flames, however, completely frustrated every effort, and mounting in immense volumes, presented a very striking spectacle. The Prince of Wales and the Duke of Sutherland were on the spot between 5 and 6 A.M., and remained for some time. Other houses in the vicinity were more or less injured, but as the wind was blowing from the north the damage was not so serious as it might have been. A southerly breeze would almost inevitably have ensured the total destruction of Mr. Rimmel's extensive premises. It is not possible to explain the origin of the fire. The steam machinery, boilers, &c., are all on the other premises, and this building now destroyed was the one which Mr. Rimmel considered the safest part of his property. He himself was in Paris at the time of the fire, but returned promptly, and by utilising the other buildings to the full extent was able to prevent any serious interference with his business.



The building was insured for 4,000*l.*, and the stock for 12,000*l.*; but this sum it is said by no means covers the value in either case, not a fragment of the contents of the building being saved.

The building just destroyed has been in existence about 200 years. It was erected on the estate of the Earl of Worcester, from whose family name it was called Beaufort House. During the first French Revolution, when the Corresponding Society existed, part of this house was occupied by the Radical Thelwall, who, with his colleagues Horne Tooke, Hardy, and others, held meetings here. Afterwards it became the printing-office of Mr. Charles Whiting. The *Atlas* newspaper was printed in this building, and we believe the early numbers of the *Pharmaceutical Journal* were also produced here. After passing a few years under the care of the Court of Chancery, it was taken by Mr. Rimmel, and converted into an export warehouse. The latest and concluding event of its chequered career we have just described.

## THE PHILADELPHIA EXHIBITION.

THE British Government, having accepted the invitation of the President of the United States to take part in the Exhibition to be held at Philadelphia next year, has intrusted the interests of the British section to the Committee of Council on Education. The Duke of Richmond, President of the Council, has appointed Mr. P. Cunliffe Owen to be the executive commissioner, an appointment which will much gratify the general body of exhibitors, amongst whom Mr. Owen won golden opinion in the same capacity at Vienna in 1873. Intending exhibitors must make application for space previous to the 25th inst., and we would strongly advise those of our readers who manufacture goods of chemical and pharmaceutical interest to write at once to the office of the British Executive, 5 Craig's Court, Charing Cross,

S.W., for forms of application for space. It may be as well to repeat here what we have stated before, that no patent medicines or nostrums whose preparation is secret will be admitted for exhibition.

The salient points of the general regulations affecting foreign exhibitors, and the special regulations governing the free importations of exhibits, as determined by the Centennial Commission, are, so far as at present decided, as follows:—

1. The exhibition will open at Philadelphia on May 10, and close on November 10, 1876.

2. Before May 1, 1875, the British Executive must state whether the space allotted is sufficient or deficient, and should, therefore, receive the demands from proposing exhibitors before April 25, 1875.

3. Before December 1, 1875, the Executive must send in plans in detail showing individual allotments, with all catalogue information.

4. No charge for space.

5. No charge made for a limited quantity of steam and water power. The quantity to be arranged at time of the allotment of space, and any excess of power to be applied for at same time, and to be furnished by the Centennial Commission at a fixed rate.

6. Goods for exhibition to be considered as bonded and exempt from Customs duties.

7. The usual noxious and explosive substances are prohibited.

8. Exhibitors or their agents are responsible for the packing, forwarding, receiving, and unpacking of their goods, at both the opening and the close of the Exhibition. The owner, agent, or consignee must be present to receive goods.

9. Reception of exhibits will commence on January 1, 1876, and no article will be admitted after March 31, 1876.

10. The installation of heavy objects requiring special foundations or adjustment should, by special arrangement, begin as soon as progress of works will permit.

11. Space assigned and not occupied on April 1, 1876, will revert to the Director-General for re-assignment.



12. All goods must, under penalties, be removed before December 31, 1875.

13. The objects exhibited will be protected against piracy of inventions or designs. Sketches, drawings, photographs, or other reproductions of articles exhibited will only be allowed upon the joint assent of the exhibitor and Director-General.

14. The Centennial Commission will take precautions for the safe preservation of all objects in the Exhibition, but will not be liable. Facilities will be arranged by which exhibitors may favourably insure their goods.

15. Special regulations will be issued concerning the exhibition of fine arts, the organisation of International juries, awards of prizes, and sales of special articles within the buildings, and other points not touched on in these preliminary instructions.

## POPULAR LECTURE ON SOME OF THE LAWS OF HEALTH.

By HUGH MILLER, Esq., M.D., F.F.P. & S., GLASGOW.\*

GOOD health is an inestimable blessing. Yet how few realise its great advantage until after an illness has robbed them of it, and fewer still take ordinary care to preserve it until after a period of sickness they once more regain a sound constitution. Health is the best of all earthly blessings, and a knowledge of how to preserve it must therefore be very valuable to all men, and in an especial manner to all those who earn their bread by the sweat of their brow. Of those who work to live, many toil on from day to day through all their life. "The trivial round, the common task," suffices them, and they jog on playing their part "till the heart is sick, and the brain benumbed, as well as the weary hand." It was at such a time the poet Gay thought of the value of health, and all the enjoyments which its possession gave, and he wrote—

Nor love, nor honour, wealth, nor power,  
Can give the hearth a cheerful hour  
When health is lost.

It is true that without health we cannot have strength either of body or of mind. Ordinary prudence, therefore, ought to lead us carefully to inquire into any means by which we can conserve this state of body, and thus preserve to us so great a boon.

While to a large majority of the human family abundance of opportunities are afforded for observing those laws which regulate good health, our present arrangements in large cities make this undertaking a serious difficulty to others; and this will continue until some plan has been devised which will enable every citizen to secure the means by which he can obtain the healthy dieting and exercise of his own body—the due cleanliness and ventilation of his abode—the provision of sufficient accommodation—and the admission of good air and light, not only to his own dwelling, but to every house in the locality. Our safety from epidemics and from all kinds of infectious disease will only be in proportion to our power to compel our neighbours and ourselves to employ every possible means towards preventing the body or the dwelling becoming a starting point of disease. This was why the laws of health became a public question, and also how the observance of these laws by an individual would be an advantage to every one coming in contact with him. Nearly always we have ourselves to blame when infectious disease originates with us, and like all other evils, we can only estimate the mischief which it would produce by reckoning up the great distress and death which would come to numbers of perfectly innocent beings, just because they resided in the same building with us, or in some way were brought into contact. I do not require to inform you that most of the infectious diseases are preventable, but I may remind you that the contamination from which they originate may be carried to us in the air we breathe, the water we drink, the vapours which arise from stagnant waters, and from any decaying matter. The poison of infectious disease especially hangs about those abodes which are ill ventilated and filthy. In this way we may suffer from two sources of infection—one source proceeding from the emanations of filthy ill-ventilated

houses, the other source being derived from decaying animal and vegetable matter exposed in confined situations outside of the dwellings. The present day notion, and I believe the correct theory of the origin of infectious diseases, is that the contamination through these sources induces most of those kinds we meet with in a city. In whatever situation the poison is evolved, you may rest assured that its presence there is misplaced and thoroughly unnatural. All substances which have been alive will die and undergo decay; were the evidence of this chemical change as apparent as the setting free of chlorine gas, our sanitary officers would have little cause for complaint. Unfortunately the vapours evolved are often unseen, and about as frequently unfelt by our nasal organs. A local poet, thinking that the sanitarian's views of disease in general was confined to this misplaced matter, quaintly describes him walking through his district:—

Dirt in each eye, directed to the strand,  
A smell in nostrils from a source at hand,  
But blind to human faults from low position,  
Morale, physique, and very poor condition.

It is not the strong smells from the manure heap that we chiefly suffer from, even although poetry would indicate it. It is from the invisible vapours, which are not felt, but which were never intended to be breathed by living creatures, that act with such blighting effect upon our energies, and produce such poisonous results. I need not enter into an examination of the supposed chemical formulae of these invisible poisons. They are said to be bred in great quantities in the rooms we occupy as a dwelling; and, according to Dr. Fergus, they are also liable to be conducted into the house, even through water-traps connected with our drains and sewers. I have no wish to deny the influence of atmospheric conditions in the causation of infectious disease. It is well known that temperature and direction of the wind play an important part in the carrying of epidemics, even supposing that neither of these agents originate the infecting substance; but, speaking just now of what can be done by us to prevent the onset and spread of preventable disease, I cannot too strongly point out how essential it is that we of ourselves, through slovenly, careless habits, should not become the nidus of an epidemic; and how important it is to know that we have the power to demand the same care on the part of others, which we are willing to impose upon ourselves, that such an unfortunate issue may not arise. Since this view of the question drawn on the public mind, the local governments, and the State too, by enacting laws, have lent their aid to regulate and to preserve in safety the public health. Many of the laws of health which I require to mention may be carried out under the direction of the local authorities. Unfortunately, however, while they can and are doing much good, they are incapable of seeing all the known laws of health properly attended to. Where the State cannot, or as yet will not, interfere, it becomes every man's duty to himself and his country to make the right performance of these laws a matter of conscience; and it will be by a united action only that good results can be secured.

Before I proceed to the subject proper, probably I ought to say something about the word health. Indeed, the first question which suggests itself while considering this subject is, What is health? That question might be answered by stating it either as freedom from disease, or, in other words, and for the purposes intended by this address, health may be defined as that state of the human body in which all the vital organs discharge their duties without inconvenience to themselves or to other organs with whom they naturally should work harmoniously. In fact, it means that each part of this very intricate machine should so fit in, and be in such good working order to the other, that all the organs can move on in harmony together. However, every definition will be wide of the truth which is based upon the assumption that man is a mere machine. The mutual bearing and dependency which subsists between mind and body are such that any question affecting health must take cognisance of, and of necessity include, the consideration of both. I hardly think any proof necessary to strengthen this statement. You are aware, nay, most frequently witness, the powerful effect which the various emotions of the mind exercise over the body. Take, for example, a sudden outburst of passion; should this happen to a nursing mother, it may change that blandest of all secretions, the milk, into a deadly poison. I saw one instance where a mother became excited on learning that some of her clothes were stolen. A little

\* Read before the Glasgow Chemists' and Druggists' Association, in Anderson's University, on Wednesday evening, March 17, 1875.



afterwards she put her babe to the breast. It was then quite healthy: within an hour it took a convulsive fit, and for some days afterwards continued in a very critical state. There is nothing more necessary to maintain or to restore health than that the mind should be kept in a calm and easy state. When we want a patient to get on well, we enjoin rest and quiet, we insist that he should not be worried with business; we believe that he will aid the treatment materially by being kept cheerful and happy, and even when we have cause to suspect the worst we usually find it best to keep hidden from him any unfavourable opinion about the issue of his illness. Every day we see around us happy, contented individuals whose minds are not harassed with care and anxious thoughts, and who are careful as to their mode of living, fulfilling the promise of the adage, "laugh and grow fat." While, on the other hand, we meet many whose minds are burdened with care, who complain of being out of sorts; they suffer, they may think, from a weak stomach, they are denied a refreshing sleep, they believe they are very ill, and a dull depressing mental worry is all they require to make them really careworn. This is not a disease for treatment by your "invigorative tonic," or any other panacea in the long list of patent medicines. Restore the man's peace of mind, if that be possible, cheer up his spirits, and permit the mental faculties to become buoyant by change and exercise in a purer air; then we will have light in the eye, a ruddy hue in the cheek, and the firm sprightly step, which give the best evidence of a restoration to a healthy state of mind and body.

Let me prepare the way for the better understanding and fuller appreciation of the laws of health by taking another view of the question, viz., that which relates to health as contrasted with a condition of sickness. You will acknowledge as true that health is the mainspring of bodily strength and mental vigour, and the prime source of comfort and enjoyment, while disease, in proportion to its degree and duration, is the representative of suffering more or less severe, and of failure more or less complete. Your connection with the agents to combat disease may have led you to think of this, but have you endeavoured to realise the distinction between the value of health to different classes of society? To the rich, who need not work to live, and to the poor who must work that food and comfort may be secured, health is equally the source of comfort and enjoyment; but to the man who must labour that he may live good health is this and something more—it is the means by which he earns the power to secure any comfort and enjoyment. Disease, and especially a lingering malady, such as fever or consumption, takes from him the ability to earn wages, exhausts his savings when he has any, and if long enough continued leads him to poverty or great destitution. If the man recovers his health it may be after he has lost his employment, and his convalescence may be spent in a wearisome—perhaps a fruitless—search after work. Even where disease attacks his family, although it spares himself, it is still a great calamity. Indeed, a working man's comforts have no worst foe, education no deadlier enemy, and intemperance no surer ally than sickness when it enters his dwelling. Thus the good health of one family exercises an influence for good even in a pecuniary way, not only to the individual household, but to the community, yea, even in an indirect way to the whole country. We have heard much of late years about labour and capital—these may indeed be called the two pillars on which the State rests. Well! in proportion as we find disease existing do we find it paralysing labour and wasting capital. Wherever public provision is made for the poor, preventable disease and premature death impose the heaviest taxes on the ratepayers. After an epidemic in a district of London it was found that thirteen out of fifteen of those who received relief had been ill of fever, or had been pauperized by it; and this in a greater or less degree is the sure result of all severe and lingering diseases.

From these remarks you will perceive we are dealing with a subject whose importance it is impossible to deny, and whose power for good it is difficult to exaggerate. It is, besides, worth the consideration of all classes of the community.

The essentials not only of health, but of life, consist of three well-known agents—nutritious food, good air, and pure water. These have been a *sine qua non* to man, whether his existence was in primeval times, when he lived by the chase, or in the more modern days, when the forest home is deserted for the fireside and the mountain eag for the labour of the husbandman; and although our lot is to be neither that of the hunter nor the tiller of the ground, you will find that the same condi-

tions of our nature require as sufficient a quantity as ever of these primary essentials of health and life.

In all conditions of the physical life of man there is scarcely such a thing as rest. The numberless organs and tissues of which his frame consists undergo a perpetual change, and in the exercise of their function some part is worn and expended. Thus we cannot think, feel, or move without wasting some portion—less or more, according to the energy of the action and of the number of nerves or muscles employed. The wasted substance resulting from the exercise of any of our numerous vital processes cannot remain in its original situation, where it would be not only useless, but also obstructive and injurious. Hence this old, used-up material is being daily removed from our bodies to the average amount of from three to four pounds; and to meet this waste we require the assistance of two out of the three essentials to life, viz., a sufficient quantity of food and drink. The supply has to be equal to the demand, and this change is so thorough and complete that not a particle of our body will be present with us some time hence—not seven years after this, as was once the popular belief, but in the course of a very few months. Now, keeping our subject in view, I would call your attention to this law of health—that to efficiently maintain a high standard of health, we require to use a nutritive and a mixed diet; that is, a fleshy, a vegetable, and a fruity course to each of the principal meals. Such a mixture serves a double purpose: it forms the tissues of the body, and assists to produce a sufficiency of heat. The people of Britain, are said to be the most flesh eating because they are the most laborious people in the civilised world. Flesh meat combines among other qualities the virtue of being very nutritive and very digestive, and of having the nourishment so concentrated that very little time, in proportion to its nourishment, is required to masticate it. Peas and beans have in them much of the flesh-forming qualities of butcher-meat, and they have long been the poor man's substitute in Germany and Scotland—especially the former, which are, when ground to meal, largely used in Scotland to make pease-brose. One pound of fresh peas contains as much material for the nourishment of our muscles as 15 lbs. of potatoes, and so identical is the principle of peas with that of milk that it is said the Chinese have been able to make cheese from them called "taofoo." Of the vegetable kinds I may mention the potato, rice, and all starchy foods generally.

In addition to the animal and the vegetable, these are wholesome and necessary, but as an exclusive food they would induce disease and debility. You do not require to go beyond Ireland for proof of this. An Irish labourer at home living on potatoes, stir-about, or oat-cake, is deficient in endurance of toil, but wonderfully contented. Remove him to another field of exertion, let him fare well, and he soon becomes equal to other men in industry and in capacity for hard work. The animal and the vegetable are the two great groups of food. The proportion of each should be according to our employments, and we should be supplied with them in as great a variety as practicable, so as to gratify the various cravings and the peculiarities of taste and life. The kind of food and the mode of preparation should be left very much to individual selection. All men are not formed alike, and what may be beneficial, nay, be essential, to one man, may be very distasteful to another. With reference to regularity in taking your meals, no two opinions exist. We are all agreed that nothing conduces so much to dyspepsia as want of attention to this injunction. The stomach requires to be kept in regular exercise, in order that digestion may be properly performed. There is nothing more detrimental to health than that of missing meals when you are busy. Then, never eat too much at one meal. If you fill your stomach with food, you will either prevent it doing its work well, or you may arrest its physiological action. This led the sagacious Cobbett to remark that, "for every one man who dies of starvation, seven die from over-feeding." You will find it a good rule to act according to the proverb, "Always rise from table with an appetite." Were this rule followed, much mischief to children and to grown-up people would be avoided. In summer we require less food to consume, both on account of the increased temperature and the lessened exertion. Hence, frequently cases of diarrhoea occur during the hot season from over-eating alone.

The comparative value of the various articles of diet, as formative material for the body, does not belong to my subject, and is of too extensive a range to be even indicated here. I may mention, however, that I believe the cooking depôts established in this city have influenced most beneficially the health of the labouring classes. As these depôts are conducted

on the strictest business principles, with the full intention of making them self-supporting, all who frequent them may do so with a feeling of perfect independence. In addition to their present object, I think they should undertake to teach the wives and daughters of the working men the principles of cooking. At present, this study is more neglected by them than by their corresponding class in any other country. The sooner it becomes the fashion for every young wife to spend an hour or two of the first months of her married life in learning the culinary art, the better will it be for their husbands and their offspring. With regard to cooking, for instance, unless in the case of pork, frying is the worst form to adopt in preparing animal food. Again, fresh meat is healthier than salted meat, and is more easily digested. Living too long upon an exclusive salt diet produces a diseased state of the body, called scurvy, which is only removed by a prolonged use of vegetable and fresh meat diet. Instances might be added to show how ill-cooked food, even when that food is otherwise healthy, produces a deleterious change upon the blood; but above all, above even the selection and cooking of the food, I believe its thorough mastication—that is, its being properly chewed—is necessary to the maintenance of good health. Eat your food slowly. The saliva is a most important element; nature has provided it to assist in the digestion of potatoes and the other starchy portions of the food, and without due attention, therefore, to this point, you may early find a painful, sickly dyspepsia render your life miserable. As indicating the effects of bad food upon the body, I think I can best impress its evil results by quoting a case related by Dr. Brown, the well-known author of "Rab and his Friends." "One day a labouring man came to me with indigestion. He had a sour and sore stomach, and heartburn, and the waterbrash, and wind, and colic, and wonderful misery of mind and body. I found he was eating bad food, and too much of it; and then, when its digestion gave him pain, he took a glass of raw whiskey. I made him promise to give up his bad food, and his worse whiskey, and live on pease-brose and sweet milk, and I wrote him a prescription, as we call it, for some medicine, and said, 'Take that, and come back in a fortnight, and you will be well.' He did come back, hearty and hale—no colic, no sinking at the heart, a clean tongue, a cool hand, a firm step, a clear eye, and a happy face. I was very proud of the wonders my prescription had done, and having forgotten what it was, I said, 'Let me see what I gave you?' 'Oh, yes, he 'I took it.' 'Yes,' said I, 'but the prescription?' 'I took it as you bade me: I swallowed it.' He had actually eaten the bit of paper, and been all the better of it; but it would have done him little, at least less good, had he not trusted me when I said he would be better, and attended to my rules." Without doubt a good deal of the dyspepsia we constantly meet with is due to the food being badly cooked, and only partially chewed. When a sufficient bulk of food is swallowed, hunger is appeased, however little the nutritive value of the food may be. Should the supply of food be thus withheld, in proportion to the starvation will the body waste—the fat first, the nervous tissues next; and their debris, passing and re-passing into the blood, helps to sustain the partially fed, until about two-fifths of the weight of the body is lost, and death ensues. Short of this calamity we constantly find that errors of diet, such as ill-cooked, or unwholesome food, or even living too much on one kind of food, deteriorates the body, and induces disease. Scrofula, now so common a disease amongst the New Zealanders, was unknown there until the potato became their chief diet. Diseases of the bones and of the eyes are abundant in this country, and are believed to be induced by using too little of digestible flesh-forming articles of diet. There is no doubt one of the causes of the fevers which live so persistently in our midst is due to an insufficiency of proper food. It may be brought about in this way:—The strength of the body being below par, as the new tissue-forming material is introduced into the blood the old waste matter or the new badly-formed accumulates, renders the blood impure, and makes it more susceptible of any of the contagious diseases. Again, when, either by contagion or by the generation of the fever poison in the body active disease ensues, the depressed body is less able to bear the exhausting effect of a lingering illness, the period of recovery is lengthened, and a whole train of "sources of anxiety" complicates the illness and makes a sad anxious time of it to the debilitated sufferer.

The next primary essential law of good health is in having good air to breathe in.

The oxygen of the air is the great motive power of the human

body. Introduced by the process of breathing into the air cells of the lungs, which number from five to six millions, this oxygen is seized by the red cells in the blood, and by them carried through every part of the body to combine with the other substances there. This operation—which we call a function—produces combustion and evolves heat. Through this carrying of oxidised blood we are enabled to sustain exertion, and to think out our ideas. Complete denial of this oxygen would, then, prove rapidly fatal. We know it is so, and that a diminished supply of it to the body, however occasioned, will in proportion to its absence be more or less injurious. Our ordinary atmosphere has about three-quarters more nitrogen and other impurities in it, and only about a quarter of oxygen to any given bulk of it. The usual cause of impurity is carbonic acid gas, and this being derived from the expired air of animal life, from the burning of coal, of gas, and other combustible material, it accumulates very rapidly wherever provision is not made for its thorough ventilation. It is worthy of notice that typhus fever oftenest occurs, and in its worst form, in situations where human beings are crowded together, especially in such places as the confined parts of large cities, and in camps, and in ships. Since this subject should be peculiarly interesting to you, I will bring before you some illustrations of its dire effects.

In 1756, 146 Englishmen were thrust into a prison about 18 feet square. It had only two very small windows to admit the air. These were placed on the same side of the building, and for want of a draught little ventilation was possible. In a short time delirium set in. By four hours the living were in a state of stupor; at the end of six hours 96 were dead. Next morning 23 only were alive, and of these, the majority, who were taken out from this Black Hole of Calcutta, were subsequently cut off by putrid fever.

The steamship *Londonderry* left Sligo on December 2, 1848. Stormy weather coming on, the captain forced about 200 steerage passengers into their cabin. This room was 18 feet by 11 feet, and 7 feet high; thus allowing 7 cubic feet for breathing space to each passenger. The hatches were battened down, and lest the water should get in, tarpaulin was nailed down over it. In a short time 72 died, and the others were suffering from fearful convulsions when found by the mate.

In 1832 there was a property in Finsbury Street, Anderston, a large house, called from its mode of construction, and the vast crowd of human beings who lived there, "the barracks." Some now hearing me may remember it still. Nearly 500 persons, chiefly Irish, lived in this building. Each family had one or at most two little rooms. At one time fever was never absent from the property. Five have been seen ill at once in one room, and in the last two months of 1831 the cases in this single tenement were 57. During the five years ending with 1849, there were 55,949 cases of fever in the whole city; consequently, it will be observed, this barracks, with 480 inhabitants, ought to have had as its fair proportion 112 cases in the five years, instead of having had its 28 cases per month. To remedy this state of matters the present medical veteran, Mr. Joseph Fleming, then the police-surgeon in Anderston, caused a siphon tube, about 2 inches in diameter, to be led from the ceiling of each room into the chimney of a furnace attached to a neighbouring factory; by this means a perpetual draught was established, and the inmates compelled to breathe pure air, whether they would or not. The consequence, for we cannot consider it otherwise than as a consequence, was that during the ensuing eight years fever was scarcely known as existing there, while at times it was very prevalent in other parts of the city.

There are circumstances connected with a city life which tend to impair health, over which, to a certain extent, we have no control, because in many instances the inhabitants require to reside in districts which are overcrowded and unhealthy. To some extent overcrowding is an evil which it will be difficult to remedy. The high rents exacted by the landlords of houses suitable for the working classes, and the present arrangement of building houses in flats, favour the crowded state of certain localities, to the exclusion of healthier districts. I have long believed in this view of accounting for our high mortality. Whenever we have above a certain number living on an acre of land, then, just in proportion as this ratio increases, do we find the death-rate increase, and especially is it so when an epidemic visits us. Years ago I examined the tables of various cities, and found that their mortality also was very much in proportion to the overcrowding upon the area of ground. The remedy for this is easy. Erect a suburb where ground is cheap,



build cheap substantial houses on the cottage system on it, and establish an efficient tram-rail communication with a central part of the city. The first result of this movement would certainly be to draw to it the most intelligent, most industrious, and most prosperous of the artisan class, but, the exodus once begun, others would follow. The comparison of the fresh, ruddy complexion of the suburban dweller with the pale, sallow countenance and sunken eyes of the city one would become the best plea in favour of caller air. Whether or not we reside in an overcrowded locality, we must take care to have a free and unrestricted circulation of pure air in and around our dwellings. The true and natural mode of securing it is to admit air as freely as light, to allow it to pass in and out on all sides, and to permit the current to take its own course. The objects we accomplish by ventilation are the removal from our apartment of all noxious gases produced by combustion, overcrowding, respiration, sewer gases, and other decomposing animal and vegetable matter, and the equalisation of the heat and moisture. By ventilation these ingredients ought to be removed entirely, or be diluted below an injurious degree. The different density of cold and heated air produces a constant circulation in the atmosphere of a room, and, unless the generation of these impure gases be very rapid and abundant, it will be in this way very equally distributed. This has been repeatedly observed in mills and factories, where the workmen invariably exclude to the utmost the admission of the external air. I have known these workshops so overcrowded and ill-ventilated that a suffocating feeling was at once experienced on entering a flat; and I have no doubt but this, in a great measure, explains the early ageing and the consumptive tendency observed in mill-workers. It would even appear as if this state of matters existed not so much from the nature of the occupation as from their own choice. In England, an overseer insisted upon the ventilators being kept open, when the operators struck work for an increase of wages, giving as their plea that the fresh air quickened their appetite and occasioned a larger demand for food than their wages permitted of their purchasing. What is true about the ventilation of public works applies with equal force to dwellings. The half-starved Dunstable bonnet-makers, according to Dr. Pickford, huddle and pack themselves together into the smallest possible space in a close unventilated room without fire during the winter months, endeavouring, by the emanations from their own bodies, to keep each other warm, and to cheat nature herself of that sustenance for which their own sickly, weakly bodies cry aloud. Every window should be frequently opened, both by day and during the night. They should be opened from the top in winter, and from the top and the bottom in summer. A fireplace is a good ventilator, especially when a fire is burning; but even without a fire, if the vent be not stuffed up, the wind as it blows across the tops of our chimneys encourages draughts, and thus removes foul air. Doors are ventilators, as you can prove by taking a candle into a close heated room. If you place it at the chink above, the flame will be blown outwards by the hot air escaping; at the bottom chink, inwards by the colder air entering. However, the air so admitted may not be the freshest, should it have first been used downstairs and afterwards sent upwards, through its being heated and tainted. You will be surprised to hear that even through walls an interchange of gases may take place, and the reputed unwholesomeness of the closely-jointed iron houses has been assigned to this cause.

The third primary essential of good health is in having pure water.

Our present water supply is our pride and our boast. It would be difficult to calculate the lives which it has saved through its use during the past twenty years. I do not think it has had fair-play yet, else neither choleraic-diarrhoea nor typhoid fever could become epidemic in our midst. One cause of this is in not always taking our drinking-water from the main. The old plan of placing the cisterns over the water-closets, and in a room rarely cleaned out, helps to this. The bath, should there be one, is often made the receptacle for filth, and should anything go wrong with the closet system, or be defective in it, foul gases get in, and the pure water in the cistern gets as tainted as if it had passed through a dunghill. I remember a circumstance in my practice which will illustrate this. A family, consisting of a mother, two daughters, and a son, took ill, having all the symptoms of gastric fever. The husband, who was from home on business, returned on hearing of his domestic misfortunes, and instituted a careful inquiry as to the cause of the sickness. During the inquiry we learned that all

the drinking-water was derived from the cistern over the water-closet, and on careful examination of the cistern a thick gassy scum was found floating on the surface of the water, and a good deal of *dribbs* at the bottom. Here we had sufficient evidence of the exciting cause of the fever, and I am glad to say after the cistern was cleared out and disinfected the patients rapidly recovered. I would advise you to at least make sure that you get your drinking water from the main. I believe, should the kitchen supply lead from the cistern of the house, you can demand from your landlord a connection direct from the main-pipe. The sanitary officials in our city will advise you how to act, and, I believe, will even step in between you and the landlord to secure for you a healthy water supply should you wish it.

Having now referred to the primary laws of good health, and pointed out their value, let me add that in our civilised domesticated condition the observance of these laws will be powerfully aided by the house floor, the walls, and the closets receiving a frequent and thorough cleansing. Filth in any form is an abomination, and it is especially so when found in the bedding and in wearing apparel. Were it for no other reason than the fear of harbouring infection, see that these things are frequently cleansed. Let them also be spread out and aired daily—the bed clothes every morning, the body clothes during the night. A good deal might be said about the wretched dwellings into which a large number of our fellow-citizens seem to huddle themselves. I was astonished by observing in our city chamberlain's report that, in a district having the cross of this city for its centre, and in an area of ninety acres, there lived, in 1866, 8,284 families; and that now, notwithstanding the operations of the Improvement Commissioners and the space required by the Union Railway, 7,986 families still resided, showing that with all the pulling down only 298 families have gone elsewhere for accommodation. The reason given for this is, that houses having two or more apartments now accommodate more families than before; and this in the ill-ventilated, badly-constructed buildings which have been such nurseries of fever in the past. It will be perfectly impossible for these people to keep in good health. However carefully otherwise they observe the laws of health, the stamina of their constitution is bound to deteriorate; and then, what with this filthy physical state, the debility of the nervous system and the misery attendant, the very kind of life they live, who will wonder that they should find artificial stimulants grateful, and that they should prefer the counter, the room of the public-house, or the concert-hall more to their minds than the places they choose to sleep in.

Those laws I have referred to hitherto were such that the State could remedy their defects, or at least influence for good. I will now speak of those which could not well be taken cognisance of by public laws, but which are nevertheless as binding on each individual, and the first of these I will speak of is cleanliness—personal cleanliness. I will endeavour to show you, from the very formation of the skin, the value of keeping it clean. It is not because I presume you are ignorant of this point, but because a very important law of health is taught by it that I do so. It is this—that skin cleanliness augments the nutritive effects of food. It has been found on a positive comparison of results with the same quality and quantity of identical foods, that pigs that were subjected to regular skin cleaning by being washed put on a fourth more flesh than the pigs that were unwashed, and that the pork of the cleaned pigs was the finest and the best for eating. Calculating from the experiments then made, it is believed that the same food which is required to make four children that are dirtily reared thrive will serve to make five thrice whose skins are daily washed and made clean. Well, our skin is composed of two principle layers; the scarf skin, which you readily peel off, or which is raised by a fly blister, and the true skin, containing the nerves by which we feel and the ducts by which we throw off the perspiration and other matters. The outer or scarf skin is quite devoid of feeling, as you may notice when testing the edge of the razor on your hand, and therefore is placed over the sensitive layer to blunt the feelings. It prevents water passing through it, to and from the body; and being a bad conductor of heat, prevents any bad effects from the sudden changes of temperature. Under the microscope you would be amazed to see the number of tubes through which the perspiration alone is expelled. A Dr. Wilson calculates the average number to the square inch of skin as 2,800; on the palm of the hand 3,628, and on the heel, where they are least numerous, 2,268. Taking the surface of an ordinary man as

being equal to 2,600 square inches, the number of respiratory tubes of the skin will be 7,000,000, and as each is about a quarter of an inch long there will thus be 28 miles of tubing in the entire skin of an adult. Now you will easily perceive that serious results must follow when this drainage system is obstructed, for besides the moisture of the perspiration, much of the used-up matter of the blood is thrown out by it. This latter material is of an oily nature, and has a tendency to harden on the skin when mixed with filth, and thus plug up, as it were, these tubes. Now it is requisite, in order to let the skin do its work, that these secretions be regularly removed. The Dr. Wilson I have already quoted from says that the face and neck, from their exposure, should be well washed twice a day; the feet, from the confined nature of the covering, require to be done at least once; the armpits, from the peculiar formation of the skin, and the sebaceous character of the secretions, &c., at least once; the hands and arms as often as nicety and taste may dictate. I believe in the use of the bath. Every citizen should be able to enjoy its luxury. It is a good social custom. It prevents disease. It is the best mode of washing the body. It keeps up a cleanly and vigorous state of the skin, helps us to resist sudden changes of temperature, and makes us less liable to catch infection. Without it personal cleanliness is impossible. It has always appeared to me as strange that in this matter we should be so far behind the inhabitants of the East and of ancient Rome. I feel sure the citizens will realise the necessity of attending more to the skin. The day must come when it will be believed that health can be preserved and life prolonged by man "grooming" himself, just as it is believed and is the fashion now to "groom" a horse for that purpose.

One word about our clothing. Everybody knows that the human skin is protected naturally the least of all animals, and that clothing is used to prevent the ill effects of sudden change in temperature and for preserving the proper heat of the body. Strange as it may appear, this is why clothes are used equally in cold climates and in warm countries. The clothes conduct slowly. The woollen least of all. Especially in cold weather, by absorbing moisture and giving warmth, will flannel be beneficial. Since inner covering was made from this fabric we have had fewer bronchial complaints. Dr. Hunter's recipe for rearing healthy children was "plenty of milk, plenty of sleep, and plenty of flannel." To preserve good health you must be warmly clad in winter. Don't be carried away with the mistaken idea that health can be so well preserved by being hardly. Another point affecting health is the effects of certain localities on disease. In any consideration of the laws of health the influence of the soil and of the climate hold a very high place. In what remains of your time I will endeavour to point out some features of interest and leave you to find at your leisure the many circumstances which have induced observers to frame such conclusions. With reference to the soil, which is made up of crumbled rock, broken down by the action of the air and of water, and mixed with vegetable and animal matter, scientific men have arranged this surface matter into three classes, according to the preponderance of the ingredients present. Thus, calcareous soils have carbonate of lime plentifully, the sandy possesses much silica, and the clayey consists almost entirely of alumina. The farmer delights in a mixture of these, and his object is, when the soil is deficient in any of them, to secure the ingredient wanting, and in proportion as he does so does he enrich the soil. The capacity of these soils for absorbing and holding moistures varies; so do they vary in the power of retaining heat. Hence the sanitarian looks on the land with a different feeling from the farmer. His object is simply to get a good filtering bed, that the rain and sewage may easily pass away. Sand retains heat longest and draws least moisture; chalk the least heat and most moisture. The knowledge of this, because of their capacity for lodging subsoil water, has a most important bearing on the generation of some fevers. Gravelly or sandy self-draining subsoil is, therefore, the best, and marshy, muddy, or chalky ground the worst, to live on. The effects of dry and moist weather upon disease is very evident in our country. About one year in every five it is extremely dry—then fever prevails, because of the difficulty of washing away the filth in our closes and sewers; and one year in ten it is excessively wet—then influenza comes amongst us. A cold damp air rapidly taking the heat out of the body, chills us "to the bone." Cold is a powerful depressing agent, and if intense and prolonged it will kill; at any stage short of this, if reaction sets in a low fever ensues, which may terminate in influenza rheumatic, or in an infecting form of fever. A dry wind is said

to favour the development and spread of smallpox. When cold weather, combined with much wind, occurs in London, and the temperature falls from  $45^{\circ}$  to  $27^{\circ}$ , the Registrar-General says that 400 persons perish from its effects chiefly by exciting bronchitis. The reason why the west end of a city is selected by the well-to-do to the east is chiefly because westerly winds prevail about nine months of the year, and thus for the most part the West End is saved the smoke-laden air of the central and eastern districts. The seasons have something to do with the kind of disease by which we may be affected. Inflammations of the chest and bowels and scarlet fever are chiefly winter troubles, while croup, whooping-cough, and consumption are most fatal in spring, the season during which the east wind prevails. In summer we chiefly meet bowel complaints, typhus fever, and smallpox; and, lastly, autumn, with its variable weather, changing from a sunny to a wintry character, brings the feeble, lays low the aged, besides receiving its fair quota of the diseases common to all times of the year. A source of unhealthiness arises from the existence of manufactories, gas-works, &c., when in the immediate vicinity of crowded districts. We all know that in such places large quantities of poisonous gases are given off, and though caused to pass through long chimneys in order to carry it away from all human dwellings, yet because of these gases being heavier than the air, the frequent thick state of the atmosphere and the absence of a strong wind, much of the smoke will hang over the district and gradually sink. The air thus becomes loaded with these deleterious vapours, and much injury to the weak as well as to the strong is produced through breathing it. Wherever the manufacture of iron is carried on it contributes to the unhealthiness of the locality; but chemical works, gas works, cotton and weaving mills, printing offices, and meal mills have the surrounding atmosphere loaded with the products of their trade, and these have been found to injure the health and impair the constitution of many who breathe them.

Did time permit, we might have examined into the sources from which many of the early deaths and of the fatality from sickness amongst the working classes originate. I have no doubt the gradual deterioration of their bodies is largely due to living in unhealthy houses, and in labouring during the day in the unhealthy atmosphere of their workshops, very often beyond their strength. Let us picture the tradesman, married, with three or four children, living in a single apartment and sleeping in a small, non-ventilated room. It is not possible such a man can get a good night's sleep; wearied and careworn he rises to resume his daily toil. He does so with a dull headache, a languid spirit, and a listless body. He drags through the morning hours—breakfast revives him somewhat; then the work is renewed for other four hours, and the man feels that without a stimulant he is unable to contend with the work demanded of him. The whiskey or beer at dinner helps him through the rest of the weary ten hours, and listless and tired out, this son of toil seeks once more from the ready alcoholic stimulant the aid he feels the need of. This is not an imaginary picture. Why is it so? I have no hesitation in answering that question by stating my belief that our working men of Glasgow, considering how they are housed and fed, work beyond the strength they have to give. I believe the plan of doing work for this reason to be very injurious to them. I do not mean that the labourer is oppressed, but that, considering his unhealthy way of living, he is unable to give the out-put of work a healthy man would do with ease. The same causes which are at work to produce the half of all the deaths in Glasgow on children under five years of age do slowly, but surely, sap the vital energies and lower the stamina of the parents. While, however, the tender plants sicken and die, the older, by their greater robustness, withstand depressing influences somewhat, and to wear out a sickly, dull, feeble existence. With so many opportunities to do better I confess I am unable to account for that utter recklessness in many—that utter disregard for those comforts which a little trouble and forethought would bring. Officers of health, and ladies and gentlemen seeking their good, have laboured to find the upas tree for this state of matters. They have tried visiting, printed instructions, &c., but the overcrowding, the squalor, the foul air, the dirty houses, the drunkenness, and the preventable diseases thrive as ever in our midst. The mass of the people prefer the ill they have, rather than show a little energy to throw off old habits. Let them but organise a sanitary agency, as thorough and as powerful as their trades-union, and they will gain the assistance and goodwill of all classes. The amelioration of their condition rests to a very



great extent with themselves. For the great secret in life, I take it to be, is for every man to adapt himself to the circumstances in which Providence has cast his lot, making the best use of his opportunities for his own and his neighbour's good, believing that God helps those who help themselves, and awaiting hopefully for the reward He hath promised to all such in the life which now is, and in that which is to come.

### SALICYLIC ACID.

THE dominion of "elegant pharmacy" has been extended; antiseptics and deodorisers may no longer boast of an exclusive privilege to be as disagreeable and abominable as they please: an aristocratic first cousin to carbolic acid has entered into trade, and is rapidly proving to demonstration the superiority of "blue blood." The advent, commercially, of salicylic acid as a substitute for carbolic acid may well be regarded as a great stride for those who cultivate "elegance" as well as utility and efficacy, for the former substance appears to possess a degree of antiseptic power equal, if not superior, to that of the latter; and, while carbolic acid possesses a disagreeable smell and other unwelcome properties, salicylic acid appears as a crystalline powder, nearly colourless, possessing a very faint sweet taste, and almost without any injurious action on the health. We are indebted to the Germans for this conquest, whose labours have been summarised and presented before the Medical Society of the State of New York by Dr. Squibb, in the form of a "Note on Salicylic Acid," which has been printed in advance of the usual "Transactions."

Salicin is the well-known vegetable principle existing in various species of the willow, poplar, and other trees and plants. Salicylic acid is a derivative of salicin; its properties were elaborately described by Piria, and it was subsequently prepared by Löwig and Weidmann from the flowers of *Spiraea ulmaria*; and later, Procter showed that the oil of winter-green, *Gaultheria procumbens*, was really salicylate of methyl, in other words, a salicylic ether. Salicylic acid was prepared by Cahours from this salicylic ether. As a chemical curiosity it was studied by Gerhardt, Ettinger, and others.

The little that was known of the physiological and pathological effects of salicin sufficed at least to draw attention to those of its derivatives, and especially to salicylic acid, which has been the subject of occasional comment in the scientific journals for some years past. That it was peculiarly and powerfully effectual to suspend or entirely prevent fermentation and putrefaction has only quite lately been recognised by the Germans, who soon found that its natural sources, as above alluded to, were quite inadequate to enable the manufacturer to produce it in the quantities and at the price that might soon become almost a necessity. Kolbe, Professor of Chemistry at the University of Leipzig, took the matter up, and recognising the fact that phenol or carbolic acid might be so split up as to produce, among other substances, salicylic acid, he devised a process for its manufacture which is now practically employed at a chemical works at Dresden.

Phenate of sodium is first prepared by double decomposition of phenol and soda, and well-dried carbonic anhydride is then passed through the dry powder at a temperature of 100° to 250° C. The carbonic anhydride combines directly with the metallic derivative of phenol, and alkaline salts of acids of a higher series are formed; among these salicylate of sodium is found. The salicylate of sodium is dissolved in water and treated with hydrochloric acid, which by double decomposition sets free salicylic acid in small crystals. These crystals are washed, dissolved in hot water, and by recrystallisation obtained in the form of a crystalline powder of a light brown colour. The Germans attempt to bleach the product so obtained, and provide an article at a very high price which is sometimes quite white, but most of that in the market at a more moderate price is of a light cream colour with a reddish tinge. Dr. Squibb thinks that the unbleached salicylic acid is, probably, of sufficient purity for nearly all, if not all, the practical purposes to which the acid is applied, while expensive chemical processes have to be employed in order to remove the small amount of colouring matter, which more than doubles the cost of production. Common sense seems to show that the colouring matter present is not of a kind, nor present in sufficient quantity, to interfere with the efficacy of the unbleached product, while the high price required for the more or less bleached product

would shut it out from employment for most purposes, whatever might be its powers.

Dr. Squibb describes the bleached or unbleached acid as occurring in minute broken acicular crystals, which give it the appearance of a granular powder, soft and smooth under the pestle or knife, but somewhat rough or resinous when rubbed between the fingers. This powder is odourless and nearly tasteless. It has, however, a sweetish and astringent after-taste, with slight acidity in the fauces, but none in the mouth; and though tasteless it leaves a disposition or inclination to expectorate which continues for some time.

Salicylic acid is very difficultly soluble in cold water, but easily dissolved by hot water, alcohol and ether. An aqueous solution containing from 0.2 to 0.4 per cent. of salicylic acid may be obtained by cooling a hot solution, when the excess crystallises out. The acid is far more soluble in water containing a small proportion of a neutral salt. In Germany a solution is used for surgical purposes which contains one gramme of the acid dissolved in fifty grammes of water containing three grammes of sodium phosphate. Salicylic acid melts at about 125° C., and sublimes at about 200° C. if heated gradually, but if the temperature be raised rapidly the acid is decomposed into phenol and carbonic anhydride.

Its compounds with the bases or salts seem difficult to make, but salicylate of zinc, a crystalline salt moderately soluble in water, and salicylate of quinine, amorphous, insoluble in water but soluble in alcohol, have already been prepared in Germany.

Dr. Squibb very properly points out that it is, in all probability, a purely accidental, although a very curious circumstance, that a substance of long and well-established character as an anti-ferment should offer a molecular constitution so well adapted to be broken up into a still more powerful anti-ferment, for there is no relation whatever, either in composition, or chemical or physical properties between carbolic acid and salicylic acid, except in their effects as anti-ferments, and the two may, so far as present knowledge extends, accomplish these effects by similar or altogether different reactions. Accordingly it must not be hastily assumed that in salicylic acid we have simply carbolic acid under a new name, but the compound must be experimentally tested, compared, and then be judged on its merits. Numerous experiments reveal the fact that salicylic acid is a powerful antiseptic; indeed it is asserted to be far more powerful and effective in smaller quantities than any other antiseptic. Consequently its innocuous character, and the absence of odour and taste which characterise it, make it immeasurably superior to carbolic acid, which possesses qualities sufficient to restrict its application within very narrow limits. Other advantages which salicylic acid is said to possess beyond all other antiseptics are, first, that it may be used in quantities sufficient to be completely effectual for surgical purposes, and yet be devoid of any irritating action on the living tissues, nor does it produce inflammation, nor any caustic or corrosive effect in any quantity. Although the very small quantities that are found effectual are quite neutral, it is admitted that large quantities may be irritant or painful, but beyond what may be described as a stimulant. Secondly, it is said to have power over processes of decomposition which are beyond the reach of all other antiseptics or anti-ferments, since it entirely suspends the chemical vitality which causes the production of the volatile oils in mustard and bitter almonds, the effect of distases, &c. Thirdly, it has no poisonous effect in any reasonable quantity.

Brewer's yeast does not affect a solution of glucose to which one-thousandth part of salicylic acid has been added. Mustard flour, when treated with a little tepid water, almost immediately develops a sharp odour of essence of mustard, remains quite inodorous if a small quantity of salicylic acid be added. The action of emulsin, the ferment contained in sweet or bitter almonds or amygdalin contained in bitter almonds only, whereby essence of bitter almonds is produced, is entirely prevented by salicylic acid. Fresh milk mixed with 0.04 per cent. of salicylic acid and allowed to stand at a temperature of 80° F. in an open vessel took thirty-six hours longer to curdle than the same quantity similarly exposed in a pure state. The neutral salts of salicylic acid do not, according to Kolbe, produce this effect, but only the free acid. Beer containing one-thousandth part of salicylic acid did not become sour when exposed to the air, neither did it exhibit any trace of that cryptogamic vegetation which appears on the surface of spoiled beer. Eggs which had been plunged in a solution of salicylic acid for one hour remained unaffected for three months. Fresh meat on which

the acid had been sprinkled remained sweet for several weeks. It prevents or arrests the souring of worts, washes and beers of the brewers, and the putrefactive changes which are so troublesome to the glue manufacturers. Urine to which some salicylic acid had been added was, on the third day, still clear, and without ammoniacal odour. According to the results obtained by Professor Neugebauer fermentation may be prevented by adding 100 grammes of salicylic acid to 1,000 litres of beer. The same author recommends the use of a very weak solution of salicylic acid to rinse out the wine casks, and thus hinder the formation of mould. Small quantities of salicylic acid would also, in the estimation of Professor Neugebauer, if added to wine, prevent that after fermentation which is the principal cause of muddiness in wines, and perhaps check all the wine diseases produced by the growth of fungi. Professor Kolbe finds that half a gramme of salicylic acid is sufficient to check the further progress of fermentation produced by the action of 5 grammes of beer yeast on a solution of 120 grammes of sugar in 1 litre of water. It has been suggested that such facts as these will indicate the quantities of salicylic acid to be used in the manufacture of fruit essences, champagnes, and beer for exportation; and by way, perhaps, of reassurance to those who might object to be dosed continuously with a chemical of which we know so little as of salicylic acid, it is stated that Professor Kolbe could take without disturbing his digestion or general health from 1 to 1.25 grammes of salicylic acid per diem either in water or spirit. Surely, however, an isolated experiment of this kind is not enough to establish the harmlessness of the substance so as to warrant the recommendation of the substance for general employment in the preparation of articles of food.

Moreover Professor Kolbe proposes to use this substance for the prevention of putrefaction in water stored on board ships the object to be attained either by dissolving the salicylic acid in the water itself in the maximum proportion of 1 to 20,000, or by covering the bung-holes of the water-casks with cotton impregnated with salicylic acid. Would the salicylic acid be quite harmless if used in the former way? A suggestion which we should feel much less hesitation in adopting personally is that a capital dentifrice may be made by perfuming an alcoholic solution of salicylic acid with oil of wintergreen. Used in small quantities, mixed with lukewarm water, this acts as an effectual preserver of the teeth; or an excellent tooth-powder may be prepared with salicylic acid. A "sprinkling-powder" for the feet has also been proposed, which acts without checking the perspiration. It should be composed of salicylic acid, talc, powdered soap, and starch. Besides removing odour, it communicates an agreeable softness to the feet.

The phosphate of sodium solution of salicylic acid was employed by Professor Thiersch to promote the growth of skin over granulated surfaces. Or salicylic acid used alone or mixed with starch was used upon contused or incised wounds, and in operations, with excellent general results, destroying the fetid odour of cancerous surfaces and pyemic ulcerations. Again, Dr. Fehling, of the Leipsic Lying-in Hospital, reports its use instead of carbolic acid for disinfecting the hands, sponging per vaginum, for sprinkling puerperal ulcers, &c. For these purposes a solution is employed of from 1 to 3 in 900, or a mixture with starch-flour in the proportion of 1 to 5.

An emulsion, apparently for internal use, is recommended by Professor Wunderlich, of

	Parts.
Salicylic acid .. .. .	1
Sweet almond oil .. ..	20
Gum Arabic .. .. .	10
Syrup of almonds .. ..	25
Orange flower water ..	45

We cannot over-estimate the importance of that branch of experimental inquiry which deals with such questions as the influence of agents like carbolic and salicylic acids on septic and zymotic poisoning. These investigations should be pushed to their farthest limit, even if not one in ten put forward by chemistry repay the labour of investigation, for it is certainly in this direction of research that medicine must look with greatest hope of success to control those abnormal vital processes which so far may be modified but not stopped. The phenols will always retain their importance among this class of agents, surpassing as they do all that had been tried before them. If salicylic acid should prove another step in advance, the gain will be great, more especially as indicating discoveries which may enable us to wield an undreamed-of power against the most frightful and hitherto un conquerable ills of humanity.

## Provincial Reports.

### LIVERPOOL

#### CHEMISTS' ASSOCIATION.

THE ninth general meeting was held at the Royal Institution, March 11, 1875. The President, Mr. A. H. Mason, F.C.S., in the chair.

Mr. E. Y. Houghton was elected a member.

Mr. E. Davies, F.C.S., said that having found a difficulty in detecting small quantities of chlorates in presence of much chloride and nitrate, he had devised a method which had proved very successful. It consists in mixing the dry salts with an equal quantity of dry oxalic acid, and heating gently in a test tube. Peroxide of chlorine is evolved, and can be recognised by its odour, and by the yellow colour on looking down the tube. A mixture containing one per cent. of potassium chlorate was tested, and gave a decided reaction.

Mr. Martin Murphy, F.C.S., alluding to the working of the Adulteration Act, said that he had recently been testing some green peas for copper, and found that they only contained .0008 per cent. He considered that to call this an adulteration was absurd, and if so minute a quantity could affect the health something might be said for homeopathy.

Several members took part in the discussion which followed.

The members then adjourned to the Gallery of Art, where several microscopes and objects of interest were arranged.

Mr. Abraham exhibited injected physiological objects. The President exhibited microphotographs, &c., and the Secretary crystallised arsenic and arsenious oxide.

Mr. Murphy exhibited a saccharometer, and showed the manner of using it to determine the strength of a sugar solution.

Mr. Redford a new steam apparatus by which distillation and manufacture of ointments, &c., can be carried on in an economical way.

Several other objects of interest were exhibited, and a very agreeable and instructive evening spent.

The ninth general meeting was held on the 8th inst. The President in the chair.

The following donations were announced:—

"The Year Book of Pharmacy," "The American Chemist," and the current numbers of the "Pharmaceutical Journal."

Mr. Abraham announced that Professor Edwards, of Montreal, had been appointed consulting chemist to the Board of Internal Revenue for the Dominion of Canada.

The President alluded to the loss pharmacy had sustained in the death of the late Mr. Daniel Hanbury, F.R.S., &c., speaking highly of his worth and ability.

Mr. Abraham fully endorsed the remarks.

The President then called the attention of the members to the following extract from the last quarterly report of the borough analyst:—

"It had come to the knowledge of Dr. Brown in a private manner that some of the citric acid, tartaric acid, and other drugs consumed in the borough contained poisonous metal-lead, not purposely added, but derived from the pans and other vessels with which the substances were prepared or stored. It being beyond the power of the analyst to give any official warning to dealers, he took this opportunity of making this fact known, in order that druggists and others who vend such substances might be on their guard, knowing that, under the Pharmacy Act, they were liable to a penalty for selling such impure drugs."

A discussion followed this intimation, in which Messrs. Abraham, Davies, Murphy, and the President took part.

Mr. Martin Murphy, F.C.S., read a Paper, entitled "Remarks upon Analytical Processes in relation to Public and Industrial Requirements."

After showing the value of analytical processes in advancing the sciences of physiology and agriculture, and also sanitary development, he referred to the want of unanimity which prevailed oftentimes in the results of chemical analyses conducted by different chemists, this arising chiefly from the want of a definite codex, each man working chiefly upon his own methods. To avoid such a state of things it was desirable that a congress of European and American chemists should be formed to define a system of general chemistry in relation to analysis.

The thanks of the members were unanimously accorded to Mr. Murphy, and after a short discussion the meeting closed.



## Abstracts of Foreign Papers.

## THE RELATIONS OF THE ATROPINS.

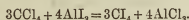
K. CALMBERG\* says that the identifying reactions of atropin, prepared according to the Pharmacopœia (Germ.), do not correspond in respect of its behaviour towards sulphuric and nitric acids. With the first named acid it immediately takes a faint yet permanent brown colour (due to carbonisation), and with nitric acid, in which it dissolves much more easily than in sulphuric, it does not assume the faintest yellowish tinge: when this acid is added to it in a watch glass, or a small test tube, a colourless solution is obtained, which from the first moment is not more pronounced in tinge than the nitric acid used. On the other hand, according to Dobereiner and Dufos, the identity of this dangerous poison may be established beyond a doubt by means of gold chloride and tincture of iodine. The first of these causes in a watery solution of the sulphate of atropin a sulphur-yellow precipitate, and the second, one of a kermes-brown colour.

## CODEIN.

The same author (Calmborg) has also examined the reactions of codein. Contrary to the statement of the German Pharmacopœia, he finds that codein when triturated with concentrated sulphuric acid assumes a bright rose-red colour, which, on addition of ferric chloride in fragments, changes to blue, or more correctly violet, only after a long time. If Liq. Ferri Sesquichlor. be used in place of solid ferric chloride, a dirty olive-green colour is produced, which passes to violet after several hours. After longer standing, a bluish precipitate is deposited in both cases, whilst the clear liquid, held against the light, shows violet. If a fragment of codein be introduced into a test tube containing the acid, solution takes place in half-a-day. This solution is clear and of a faint brown colour. An absolutely colourless solution cannot be obtained in this way.

## TETRA-IODIDE OF CARBON.

According to Gustavson,† this compound may be obtained by double decomposition between the chlorine compound and aluminium iodide in carbon bisulphide solution, conformably to the equation—



The author chose aluminium iodide because he had observed in preparing the bromine compounds of carbon that less of these was formed the higher the atomic weight of the element combined with the bromine. The aluminium iodide is obtained by gradual addition of the iodine to aluminium in a stream of carbonic acid. The tetra-iodide of carbon  $\text{CI}_4$ , which amounts to about 50 per cent. of the theoretical gain, is recrystallised from carbon bisulphide and dried in a current of carbonic anhydride. The crystals are regular, of a dark red colour, and specific gravity 4.32 at 20°C. In other relations it behaves as an analogue of carbon tetra-chloride.

## \*THE ACTION OF SUNLIGHT ON OLIVE OIL.

L. MOSCHIN‡ says that an exposure of one month to sunlight suffices to produce a complete change in the colour of olive oil, without any alteration of the specific gravity. If sulphuric acid be added to oil so treated, the latter assumes not a greenish colour, but a reddish yellow; with nitric acid or caustic soda a whitish colour is produced. If the oil be set in an open vessel, it still retains after a month the property of thickening under the influence of fumes of nitric acid; after three months the oil, though changed in colour, loses this property, and does not thicken even when acted upon by a solution of mercuric nitrate which is saturated with nitric acid. The oil altered by sunlight has a strongly acid reaction, a somewhat rancid smell and taste, and easily dissolves aniline red, becoming intensely coloured. From the foregoing it will be seen that olive oil can

only be distinguished from others by means of nitric or sulphuric acid or caustic soda when in the normal state; and that the use of aniline red, recommended by Jacobson for the detection of free fatty acids in falsified oil, may lead to the condemnation of an oil which has become somewhat rancid from the action of sunlight. Olive oil in the normal condition holds in solution a yellowish substance which is coloured green by acids, and which is decomposed by sunlight, so that it reacts neither with acids nor with caustic soda. Besides this, uncombined acids are formed under the influence equally of sunlight and of acid bodies, and the oleine assumes the nature of elaidin.

## ARTIFICIAL VANILLIN.\*

THE manufacture of vanillin from the cambium juice of pines is now carried on by Dr. Haarmann. The vanillin is not furnished pure, but as an extract, or rather as an alcoholic tincture, containing as much of the principle as does vanilla itself, viz., 0.2 per cent. The price of this vanillin solution is two-thirds that of vanilla. The smell of pure non-attenuated vanillin is not quite identical with that of vanilla, as may well be supposed, for the latter contains odorous substances besides vanillin; and moreover the different varieties of vanilla are not identical in aroma. It is said that the artificial vanillin in dilute solution and flavoured with spices closely resembles the natural variety. We believe that it would be judicious to bring into use a mixture of vanillin and sugar of definite strength, corresponding to the spirituous solution. We are informed that the vanillin solution has for the time proved a hindrance to the sale of vanilla. It will also, we fear, facilitate the falsification of vanilla by exhausting the good article with alcohol, moistening the exhausted fruits with the cheaper vanillin solution, and drying. According to Professor Hofmann, the juice of a medium sized tree yields vanillin worth eighty shillings.

## ON SUMBUL ROOT.

This root appeared first in 1835 at the fair of Nijni-Novgorod. In 1869, the naturalist Fedchenko met with the plant which furnished it on the mountains of Sarafsehn, in the Khanate of Bokhara; it had no flowers, which led him at first to mistake it for a fern. The specimens sent to Moscow flourished there, and Professor Kaufmann described the plant as *Euryangium Sumbul*. A microscopic examination of the root was made by M. Tchistakoff, and these two researches were the subject of a dissertation by M. Petournikoff in "Botan. Zeitung von Mohl und Schlechtendahl." M. Petournikoff observed that the genus *Euryangium* cannot be separated from the genus *Ferula*, the differences being too minute, and he proposes to call this plant *Ferula Sumbul*. It is cultivated at the present time in many botanical gardens in Russia, but the soil, or rather the humid climate, is not favourable for its extensive growth. Sumbul root is esteemed in the East on account of its agreeable odour.

## A NEW REACTION OF BERBERINE.†

This reaction, discovered by M. Klunge, is said to be much more delicate than any hitherto described. An aqueous solution of berberine is made strongly acid with sulphuric or hydrochloric acid, and chlorine water added. In a solution containing  $\frac{1}{10,000}$  of berberine, a band of a lively red colour is formed at the point of contact of the two liquids; on shaking, the colour spreads throughout the mass. It persists for some time, if too much chlorine water has not been employed. A solution containing  $\frac{1}{250,000}$  only, gives a rose-coloured tint. The yellow colouring power of berberine is perceptible to  $\frac{1}{250,000}$ . Brucine also gives a red colouration with chlorine, but it is fugacious, and the solution of brucine is colourless. To ascertain the presence of berberine in vegetable tissues, M. Klunge boils a fragment in water acidulated with sulphuric acid, and then adds the chlorine. By this means he has recognised the presence of berberine in a great number of substances.

\* *Archiv. de Pharm.*, Nov. 1874, p. 422.

† *Archiv. de Pharm.*, from *Ann. Chem. Ph.*, p. 172.

‡ *Archiv. de Pharm.*, from *Landwirthschaftl. Versuchsstation*, xv., 1.

\* *Pharm. Zeitung*, February 1875, p. 130.

† *Journ. de Pharm. et de Chemie*, March 1875, p. 218.



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DANIEL HANBURY, F.R.S., F.L.S., F.C.S.

ONE bright autumn afternoon, whilst the British Pharmaceutical Conference met at Exeter, a small party of friends went over the grounds that had once belonged to the late Mr. Veitch. The visit was arranged in honour of Daniel Hanbury, who, on this particular day, was in his happiest mood. Amongst the noble collection of trees that were the pride of the West of England, a number were unknown to the new proprietor; Hanbury named them in succession, and described their habitat to the delighted owner.

One trying day when he sat for many hours as botanical examiner, it was noticed that he had never asked the same question twice.

We may own then to feeling diffident in attempting to describe a man so profoundly master of his subject and of such admirable learning; and the reader must forgive shortcomings while we trace his history in the simplest words.

Daniel Hanbury was born on September 11, 1825, and entered into rest March 24, 1875. He was, therefore, 49 years old when his earthly labours ceased. He was the eldest son of Daniel Bell Hanbury, so long an esteemed officer of the Pharmaceutical Society, and associated with the fortunes of the Pharmacy in Plough Court. He left school comparatively early, and his great attainments in languages and in science are



due entirely to his own industry. While at school he gained considerable skill in water-colour drawing, an art which, when on his journeys, and specially at Mentone, he practised with assiduity. He had a delicate and graceful touch, and there was a beauty in these sketches which an artist would admire. At sixteen years of age he began practical pharmacy in the well-known firm in Lombard Street, and at a much later period was taken into partnership. He was a dexterous dispenser, neat to a degree, and doing his various work with minute attention. Report speaks also of his care in buying, and that his judgment was infallible in recognising specimens we know from personal experience. In this department of knowledge he may fairly be classed with Guibourt.

In the year 1844 he entered as a student in the Laboratory at Bloomsbury Square, and was elected a member of the Society in 1857. The date of the commencement of his business life (1841) is coincident with the first publication of the Transactions of the Pharmaceutical meetings, to which he became a regular contributor. His Papers, many in number and invariably of the same character, date from January 1850, and as in his person, dress, and manner, there was no visible change between the opening of the Great Exhibition and the month of March that has just elapsed, so this communication on Turnsole or Tournesol, though short, is constructed on the same framework as the "Pharmacographia": it contains the same marshalling of facts and dates, the same citation of authorities, the same microscopic carefulness, while the last sentence might have been written yesterday:—

"In conclusion, it may be observed as a curious fact, that although formerly in general demand, turnsole rags appear to have fallen into complete disuse everywhere but in Holland, in which country all that are now produced are consumed. Of the uses to which they are applied by the Dutch, we are still in want of more precise information."

His first Paper (as distinguished from a journal article) was on the resin of the Norway spruce fir (*Abies excelsa*), and was read at an evening meeting, March 1, 1850, Mr. Squire, President, in the chair.

His contributions to the history of Chinese Materia Medica were probably his most elaborate venture in the path of continuous research; they extended over three years, and were highly esteemed by competent authorities. Their scope placed them beyond the range of ordinary readers, and it is doubtful whether the best channel had been selected for their publication. It was the practice for the chief writers for the journal to correct and arrange their own proofs. The printing-office was at the top of Beaufort Buildings, lately destroyed by fire. There, it is related by a contributor engaged on his own manuscript, that the conscientious printer Birtles was overheard loudly bewail his fate. When asked the reason why, he replied that Mr. Hanbury had sent in some more Chinese, but a block not being properly marked, he was not sure of the right way of printing. "Chance it," was suggested. "No," said the old man, "that might do with other people, but Mr. Hanbury is very particular." Much the exact pharmacologist suffered to find that his foreign brethren would print his name Hanbury; more poignant would have been his feelings to have found himself recorded in the obituary of a high literary journal as Hembury; and that the chief under whom he worked was William Allen!

The complete series of his Pharmaceutical Papers is over sixty in number: they are beyond criticism, and are uniformly original. He is supposed to have attached most importance to those on Calabrian Manna (August 14, 1872), an historical note on the same subject (1870), and Pareira Brava (1873). Yet, if general opinion be consulted, the warmest praise will be bestowed on a communication read on Wednesday, March 2, 1859, "On Otto of Rose." Mr. Morson occupied the chair, and there was not only a crowded, but a most appreciative audience.

If we might venture to express our own conviction, it was, and remains, his happiest effort; and exhibits his powers in their perfection. The research shown is great, the arrangement faultless, and the whole thing admirable.

The point at issue in the Pareira Paper was that its botanical source was not *Cissampelos Pareira*, but that it is the root of *Chondrodendron tomentosum*. The Pareira question, involving the spelling of the word *Chondrodendron* v. *Chondrodendron* gave rise to one of those exhaustive and rather overwhelming letters which he began to indite. For our own part we should not have doubted the matter had he spelt it with a *k*. He contended that a word which was backed by great weight of authority, that had been long in use, and had been a faithful servant in botany, might still satisfy the requirements of the present generation.

A similar missive was despatched to *The Athenæum*, January 30, 1875, in which there is a whole battery of argument to shew that the Linnean orthography of the word *Cinchona* may be maintained, though the Countess of Chinchon spelt her name otherwise, and Mr. Clements R. Markham followed her example.

These elaborate discussions on etymology are not strange to many of his private circle; still less his laborious efforts to arrive at the minutie of correctness. During the past twenty years his correspondence was filled with abstruse notes and queries. He argues out the orthography of inquire *v*. enquire, the duplication of *t* in accented and non-accented syllables, the meaning of Διά, as in Diarrhodon (διά πόδων), Diachylum (διά χυλῶν) and Diacureuma—the translation of Myrepus, the explanation of Spagieria and Spagyrist; the source of Latin and Greek quotations—the correct interpretation of an unadvisedly selected motto, *Habenda ratio valet udisin*, and the term pharmacist, which at length he determined to adopt. Now, when it is recollected that his social position, his connection with pharmacy, his place as a scientific man, and his delight in travel, brought him into familiar contact with various classes of society, and that from all he diligently gleaned information, we may understand the wealth of his acquired stores of knowledge; all of which, together with what he learnt from books, were devoted to rendering more full, accurate, and reliable the results of his own investigations. This is a specimen how he answered a casual note connected with Materia Medica:—

"If I were living at Shanghai I would certainly use my best endeavours to obtain the plants which yield good Chinese rhubarb, notwithstanding the fact that all persons who have hitherto tried to do so have failed. Hankow is the city whence rhubarb is brought to the coast for shipment to Europe, and it is a journey of 600 miles from Shanghai; but it is by no means in the rhubarb country; no, that drug, or at least the best qualities of it, are produced in Kansih, 800 miles from Hankow, and in a region hitherto unvisited by Europeans." October 24, 1868.

Subsequently he verified the plant producing the rheum of pharmacy; grew a specimen in the garden at Clapham, and introduced its cultivation at Banbury. An authenticated specimen of rhubarb taken from the very spot of its production was sent to him for inspection, but it came too late.

It was with no affectation that he once wrote, "The fourth page of your note contains such a gross mistake about myself that I must correct it by assuring you that it is as hard as iron for me to compose a decent piece of English—in fact, quite impossible, unless it is written out two or three times."

Remark has often been made about the nature of his handwriting; it formed part of his character; it was legible to admiration—with no solitary flourish—each word stood in its own grounds, and there was plenty of breathing room between the lines—the ink always seemed black, and the printer was as glad to receive such copy as the individual reader.

A fair sample reduced in size is here presented: it is a note written in extreme haste:—

*Thanks for the fragment  
of a Goa Stone on which I  
can discern the gold leaf but  
no trace of the initials N. M.,  
indicating, according to Kämpfer  
(1712), the manufacture of the  
reverend Father Nicolaus  
Mominus.*

*Yours most sincerely  
Santharbury*

For twelve years (from June, 1860, to May, 1872) he was on the Board of Examiners of the Pharmaceutical Society, being, according to his own view, seven years too long: he considered a five years' tenure of office the furthest advisable period. During the whole time he confined his attention to Botany and Materia Medica. At the evening meetings of the Society he was a constant attendant, but not a speaker, for his was not the gift of the impromptu: all the more reason that we should give one specimen of what he thought about a subject that has again attracted notice.

"To most of your remarks on the subject of an Universal Pharmacopœia I cordially assent.

"The idea strikes me as visionary, inconsiderate, unpractical. Consider how such a work might be made, and that it is to be equally suitable for Munich and Philadelphia, for Lyons and Liverpool. As it would be plainly impossible to get medical men and the public to abandon the Galenic formulæ they have been accustomed to, the Universal Pharmacopœia must contain a selection at least of those of all countries, and so become a very voluminous book. Or it must abandon formulæ altogether, and include only the simpler substances, such as carbonate of soda, corrosive sublimate, iodide of potassium, castor oil, and the like. In either case such a book would be practically useless.

"But there are so many reasons why an Universal Pharmacopœia cannot be, that it is difficult to select the most cogent.

"Pharmacopœias, as you say, do not happen to exist. They are formed to meet certain clearly defined requirements, and must differ according to the habits of the people who are going to use them, the drugs which a country produces, the climate, &c. The Indian Pharmacopœia, for instance, which is now being drawn up, is designed to afford to Europeans in India and to the many natives now being educated in the Government colleges, convenient formulæ for prescribing (*inter alia*) various drugs commonly found in India.

"How could the idea of an Universal Pharmacopœia be brought to bear in such a case as this?

"A decimal system of weights and measures would obviously be applicable in all countries; but the Latin language is scarcely so expansive, though I have always deprecated it being abandoned in the British Pharmacopœia."

"You must not consider these hasty lines as either a 'notice' or a 'set paper,' though you can of course use them in whatever way you think proper." March 26, 1867.

It has been already stated that at the evening meetings of the Society he would sit a silent and apparently an unmoved

spectator, except when his own special subjects were introduced. Rarely, perhaps never, did he give the smallest utterance of opinion in public on political matters; and he shrunk like the sensitive plant from the touch of disputation. Yet, that this marked reticence was not to be interpreted as apathy, the quotation of these vigorous lines will show:

In reflecting on the scheme for admitting a number of persons without examination, I have approached (I will not say arrived at) conclusions different from those entertained by many of my friends.

Principle, I think, ought to be placed above expediency. Now, did we not hold out to the world that on and after a certain date no one should be admitted a pharmaceutical chemist without examination? If we confer a title nearly equivalent to this (quite so, perhaps, in the eyes of the public), do we not practically break faith? It seems to me that this is one of the cases in which the majority cannot bind the minority, because the compact is, so to speak, made individually. A man says, "I have spent my money and obtained this title on the distinct understanding that it was worth something, and that it could be got in no other way." "Ah, but," say we, "it would be a great advantage to the Society at large if you would give up this right you think so much of, or at least consent to share it with others." "But no," he rejoins, "I don't think so: let the others get it as I did, by paying for it in time and money; or let them be content to do without it."

Now it strikes me that this giving away of the rights of others ought never to have been entertained any more than the idea of repudiating one's debts: that however disagreeable, inconvenient, and apparently disadvantageous the compact existing between the examined Pharmaceutical Chemists and the Society may seem, it should be held sacred, and that it should never be made to give way on the plea of expediency. It is too much like taking a wrong step in order to take a right one afterwards. But it will be urged, "Would you miss the opportunity of bringing all these outsiders into the fold?" "Well, no," I would say, "I would admit them willingly if I could, only I cannot bestow on them that privilege which has been already conceded exclusively to others."

We come in due order to that which proved to him an unfailing pleasure—his election as Fellow of the Linnean Society, which took place in 1855. There he was supremely in his element; intimate with a great number of the Fellows, and held in unreserved respect. "The Linnean Society" (he says in an explanatory letter to a friend, January 21, 1867) "has been a source of much interest and pleasure to myself; and I look back with much satisfaction to the many pleasant hours I have passed within the walls of its meeting-room and library, as I have attended the meetings regularly, and not unfrequently brought to them some of my friends. I have formed a larger acquaintance among the F.L.S. than many who have been longer connected with the Society,—always an advantage, as tending to give to these gatherings a more social character." He frequently served on its Council; was actively engaged in the alterations which have been effected in the rather sumptuous arrangements of its library and meeting-room; and held the office of treasurer at the time of his death.

To the Transactions of the Linnean Society he contributed: "Note on Cassia Moschata" (H. B. et K.), xxiv. 161; "On the Species of Garcinia which abounds in Siam" (*G. Morella*), xxiv. 487; and, with Mr. Carrey, "Remarks on Sclerotium Stipitatum and Similar Productions," xxiii. 93. Numerous other communications will be found scattered through the Journal of the Linnean Society.

Much laborious work was devoted to the compilation of the Pharmacopœia of India; and he had no inconsiderable share in drawing up the "Admiralty Manual of Scientific Inquiry."

We feel no desire to enumerate his various honours, seeing that they were never alluded to by himself; suffice it to say that he was a Fellow of the Chemical Society (January 21, 1859), and in 1869 was on its Council; that he was elected Fellow of the Royal Microscopical Society, June 1867; and that the



crowning honour was bestowed also in 1867, when he was elected a Fellow of the Royal Society, and placed on its Council in 1873. Let him speak for himself. "For some time I strenuously refused to allow myself to be placed among the candidates for admission to the R.S., feeling that it would be invidious were the honour of membership conferred on a pharmacist who had really accomplished so little for science, and who had in many ways smaller merits than several others who could be selected. But it was urged, 'You must leave that to the judgment of your friends.' So this I did; and I do not know who drew up my certificate, and, with one exception, by whom it was signed."

Let us turn now to some more personal traits of character apart from immediate scientific work.

He became an active member from the commencement of the British Pharmaceutical Conference, of which he was President at Norwich in 1868, and at Exeter in 1869. That he should have accepted the position excited some surprise, for he was never credited with an admiration of popular assemblies; banquets he disliked, nor had his botanical researches led him to any practical experiments with *Nicotiana Tabacum*. Nevertheless, he managed well, and made a good dinner speech at Norwich. Both his addresses were models of presidential discourses.

A memoir painted *couleur de rose* is an unfaithful thing, and to be despised. It must not be concealed that Daniel Hanbury's avocations and the abstract mould in which the expression of his thoughts was cast inspired a feeling of want of geniality in his more public intercourse with pharmacists. This was alluded to at the time in the following sentence, to which he gave special heed:—"Personally, we are glad when he is thrown into immediate contact with others of less scientific attainment than himself, for there are some who regret that there should not be a ray more sunshine in his light." From that date he steadfastly endeavoured to overcome that apparent chill of mannerism to which attention had been drawn. That he was the attached friend of the late Jonathan Persira, of Dr. Hooker, and of foreign savans need hardly be stated here. It was at Exeter that very early in the morning, with the aid of a small pocket dictionary, he translated the German description of chloral hydrate, being the first introduction of that remedy to an English public. German he never mastered conversationally, but he had great facility in speaking and writing French. He served on the juries of the International Exhibitions of 1862 and 1867, in the former year being secretary to the jury on vegetable products, and in the latter engaged on *produits agricoles* (*non alimentaires*).

Seated round a social table, the guests were discussing the merits of the Exposition Universelle. Hanbury was amongst the number, but never a word spoke he. They discussed the paintings, the Napoleon statue, and the fine arts generally—still the oracle was dumb. Returning homewards with a friend, a sudden joy lit up the face of Daniel Hanbury. "I was fortunate—most fortunate," said he, "for, on arriving at Paris, I found out a workman's entrance to the dry goods department, and so I was never compelled to see the Exhibition once."

It was matter of remark in his home circle how assiduously he made use of every opportunity of associating with French people for the sake of conversing in their language. They were often invited to the house, and he showed special interest in their society. Thus it was that he acquired such thorough command, conversational and literary, in a foreign tongue.

He loved to travel on the Continent, and particularly in the district of Auvergne and the southern provinces of France, where he cultivated the society of every botanist of note.

With reference to his travels, it should be mentioned that as far as possible he made personal observations on everything connected with his special studies in every locality he visited.

At Smyrna he gained information about the collection of scammony and its trade; and owing to the kindness of Sidney H. Maltass, he was able to furnish interesting particulars. The striking characters of pure natural scammony were found to be:—its pale yellowish-brown hue; its transparency; its great brittleness; its property of readily affording a white emulsion when rubbed with water; and the scanty amount of a white residue which it leaves on being treated with ether. Scammony resin is to be distinguished from scammony by affording hardly any emulsion when rubbed and wetted. At Grasse and Cannes he noted the flower manufactures and described the process of *enfleurage*.

He went to Sicily on purpose to learn something about the production of manna, and at the same time gathered authentic information on the cultivation of liquorice and the manufacture of the juice.

It was in serious contemplation, had his life been spared, for him to visit the East, and particularly India, with the special view of investigating on the spot obscure points connected with the origin of certain drugs and other vegetable products.

These travels, almost without exception, were consecrated to the sole object of extending pharmacological research; having set before him one definite line of action, he pursued it to the unwavering exclusion of other influences; and neither the charms of scenery nor historic associations, still less the voice of pleasure, could tempt him from his course. Better and wiser had it been for him to have carried his bow occasionally unbent, and to have indulged in some degree of relaxation amidst his severer occupations.

In 1860, in company with Dr. Hooker, he visited the Holy Land, where he made observations on the exudation of tragacanth, and he was a frequent visitor at his brother's residence in Mentone. There he carried out those ideas of acclimatization which he so well expressed in his first Presidential address.

Not to be omitted is his friendship with the late Professor Martius, with whom he once spent a pleasant summer vacation in Bohemia; and his long intimacy with Professor Flückiger, of Berne, is fresh in the recollection of every reader of their joint labours.

A pleasant memory reaches us from Florence. Three years ago, in the spring, Hanbury went to see his good friend Mr. Henry Groves. The object of the Italian visit was to obtain information about manna, and also to see with his own eyes the various irides that grew in the neighbourhood. He stayed four or five days, and examined the drug stores of the city. Two miles distant, in the outskirts, grow the irides, in the grounds of the Certosa Monastery, and thither went the two companions to consider the lilies of the field. They were enabled to see the three species that yield the orris root, and Hanbury took specimens of the roots, and afterwards figured and coloured them at the house. Another day he called on Professor Portatore, the head of the Natural History Museum; another day he did precisely the same thing—that is, was absorbed in his favourite study, and "how well he knew how to set about it can be verified by those who have seen him at work; the methodical, searching questions which he placed to his informant were almost of the nature of a cross-examination, so desirous was he of eliciting the whole history. Nor was his precision confined to study, but in the house the servant remarked the methodical way he had in disposing his garments, and could not help exclaiming, in her Piedmontese dialect, 'Giusmaria! questo è un Sior per bon!' He was very abstemious at meal times, and could never be persuaded to take more than he thought good for himself under any circumstances."

His strictly popular work was confined to a Paper on "Prices," in the Almanack of THE CHEMIST AND DRUGGIST; "Details respecting Frangipani," in *Notes and Queries*; occasional remarks in *The Athenæum*; a Paper (reprinted afterwards)

in *Ocean Highways*, "On the Botanical Origin of Myrrh;" a note, often quoted, "On the Adulteration of Saffron;" and a sketch read at the Bath Conference (1864), called a "Chemist's Holiday-Jottings in France," in which, *inter alia*, he describes a visit to the Alps of Dauphiny, and the Monastery of the Grande Chartreuse. He did not fail, however, to remark the firs, pines, and turpentine; nor the larva manna of Briançon, with its peculiar sugar called Meleziouche.

Mr. Hanbury was the author of the "Sketch of the Life of Jacob Bell" which appeared in September 1859. Both the biographer and the subject of the memoir were cut off, "alas!" at the early age of 49 years;" both were in the fulness and brightness of their powers; both actively engaged when the last summons came.

His very latest work is a review of Markham's "Memoir of the Countess of Chinchon" which appears in the *Academy*, April 3, 1875. His last sentence is as follows:—"It is now several years since Mr. Markham lifted up his voice against this corruption [the Linnean spelling of the word CINCHONA], or, as he terms it in the present work, 'this ill-omened mutilation of the Countess's name'; but hitherto, it must be confessed, with but small effect. The new spelling has, indeed, been adopted in the official documents of the Indian Government, but it scarcely finds acceptance in a single scientific work on botany or chemistry."

Nor must we forget to mention that he aided in the direction of the affairs of the London Institution, and he was well conversant with its admirable library. The then librarian had a host of pleasant and most characteristic recollections to relate respecting their new officer. One was the famous instruction given to a visitor who wished to consult a work: "You will find the book up in the gallery; it is the second from the left-hand side from the door, on the bottom shelf. The librarian is a most obliging person, and be sure and ask him for a duster." Those who have ever penetrated to those upper regions, will acknowledge the necessity for the advice.

Let it not be deemed intrusive to allude to the constant companions of his life, the books treasured in his library. These were rare editions of celebrated authors, some of great value; a few specimens of the art of printing. There were Latin volumes of travel, and the narratives of the early Dutch, Portuguese, and Spanish explorers. The classics—French, German, and Italian literature—were included; while pamphlets that were either remarkable or unique, were clothed with costly and sometimes curiously devised bindings. These luxurious clothings were bestowed on single, not on collected tractates.

An admiring botanical friend, with whom he had long corresponded, but whom he had never seen, bequeathed him his collection of water-colour drawings of the Mexican fungi. These were executed in a superior manner, and went to enrich his store of art illustrations of his favourite studies. Besides, he had in his possession a large assortment of photographs and sketches which belonged rather to the portfolio of the traveller than to the pharmacologist.

It is due to the fine character of Daniel Hanbury to reveal the source of his unbroken equanimity—a deep spirit of devotion which found its expression, not in outward declarations, but in the uniform tenour of his life. Sometimes, indeed, the angel troubled the waters, and he was not afraid to give utterance to the deep sentiments of his heart—once more especially, when he contended for the spirituality and the vital influence of the communion of which he was a member.

No pressure of literary work was allowed to interfere with his morning's reading in the Tauchnitz edition of the New Testament. His name is absent from the lists of charity, but in works of benevolence he was munificent. A constitutional reserve of manner did him perpetual injustice. He will be mourned longest and the most sincerely by those who were his

associates, and by those whom his open-handed generosity relieved in their hour of need.

Happily the lamented early death of Daniel Hanbury did not take place before he had finished his great work in association with Professor Flückiger, called "The Pharmacographia." It remains an imperishable memorial of his accurate research; of his varied reading, and the profound knowledge of his subject. With it we may safely leave his reputation, and it forms a worthy termination of his unwearied diligence. He was a man who devoted himself to one book of nature, but left no leaf uncut and no page unstudied. He was blameless and most kindly in private life, without a shade of ostentation; one who in the fullest significance of the phrase might be described as—

Integer vixit, scelerisque purus.



## THE VETERINARY PROFESSION.

A Royal Charter of Incorporation has recently been granted to the Royal Veterinary College, bestowing on it powers of creating scholarships, awarding prizes, medals, and certificates of distinction, and appointing Licentiates, Fellows, and Honorary Associates. This college was founded in 1791, and since 1812 has been honoured by the presidency and patronage of various members of the Royal Family. At present the Queen is a patroness, and the Duke of Cambridge is President of the College. The Charter of Incorporation, it seems, is regarded with a small degree of jealousy by the Royal College of Veterinary Surgeons, and if, as we understand, there are two distinct bodies equally entitled to grant diplomas, it is at least to be hoped that the standard in each case will be fully maintained, for the public will find it difficult to remember the difference between M.R.C.V.S. and L.R.V.C.

## AMATEUR PRESCRIBING.

To prescribe for the ailments of others seems to be one of the most deeply-rooted tendencies of uncultured human nature, and it is really a marvel, and speaks much for the skill of pharmacists who stand between these amateur prescribers and their victims that so few injuries or deaths result from the practice. Every chemist knows well enough those carefully-written documents in which the most deadly poisons are ordered by the "penneth," and in which very frequently the exact medicine required can only be ascertained by a careful study of the context, or by a minute cross-examination of the customer.

William Garrick, of Croydon, got one of these prescriptions, and, partly through the carelessness of the writer thereof, but chiefly through his own ignorant attempt to prepare the medicine himself, sacrificed his life.

Suffering from the gout, he met with a friend, a young man named Dowley, who gave him the following recipe to cure it:—"Threepennyworth of potass, twopennyworth of flowers of sulphur, and two grains of the best gunpowder, to be mixed with a pint of water, and a wineglassful to be taken every morning."

Garrick sent a child out to different places to procure each ingredient, and for the potass the child went to the shop of Mr. G. M. Smith, oil and colourman, 28 High Street, Croydon, but



instead of iodide of potassium, which was the real ingredient required, the common caustic potash was naturally enough given. After taking some of the mixture the deceased became very ill, and was admitted into the Croydon General Hospital, under the care of Dr. Adams, suffering from all the symptoms of irritant poisoning. He was promptly attended by Dr. Holt, the house surgeon, who administered the usual antidotes. The unfortunate man experienced severe suffering for some days, and eventually sank from inflammation of the bowels, caused by the extension of the irritation produced by the caustic alkali.

An inquest was held at Croydon on the 3rd inst., when it was shown that in copying off the prescription Doweley had made a mistake, and for "iodide of potassium" had simply written "potass." He was on the best of terms with the deceased, and in consequence of the fatal error had destroyed the original prescription. The jury returned a verdict of "Death by misadventure."

### COMPOUND SARSAPARILLA.

THE *Sanitary Record* reports a case tried at Bradford under the Adulteration Act, according to which a man named Brown, occupying a stall in Godwin Street, was charged at the Police Court on March 19 with having sold sarsaparilla which was adulterated. The public analyst said there was not much sarsaparilla in the compound, but it was mixed with liquorice. Brown was fined 1*l.* and 8*s.* costs. If this is a fair statement of the case, we have no hesitation in saying that it was a monstrous burlesque of justice. The public analyst for Bradford, we believe, is a chemist and druggist himself, and has no doubt often sold as sarsaparilla a compound containing sarsaparilla, liquorice, and other ingredients besides. Ten words of explanation from him to the Town Clerk, or to the magistrates, would have saved this poor stall-keeper from being convicted and fined to the extent, perhaps, of half his fortune. We certainly hear with a little surprise that there is any sarsaparilla at all contained in the cisterns driven about by these peripatetic vendors. But at any rate we are not acquainted with any law regulating the proportion which should be used in the concoction of this street beverage, nor is it clear that the authority of the British Pharmacopoeia can be legally invoked to repress the sale of market delicacies generally. The Adulteration Act is bad enough in itself, and it is simply a superfluity of naughtiness to make it answerable for such absurd prosecutions as this. The next development of maternal solicitude on the part of our executive authorities will be to prosecute street singers under the same Act for false notes, or street cripples for adulterated wounds.

### DR. HOFMANN ON LIEBIG.

ON March 18 Dr. Hofmann, of Berlin, delivered before the Chemical Society the triennial "Faraday Lecture." The first of these memorial orations was delivered in 1869 by Dumas, a representative of France. In the person of Professor Cannizzaro, Italy paid the next tribute of respect to the memory of our great chemist in 1872, and now Germany is spoken for by Professor Hofmann. The lecturer chose for his subject a sketch of "Liebig's Contributions to Experimental Chemistry," and he impressed on his audience some idea of the immense labours of that extraordinary man. It is difficult indeed to calculate how much Liebig accomplished. According to Dr. Hofmann his contributions to the Royal Society's library numbered, in 1863, no less than 317, of which 283 were entirely by himself. Of organic chemistry he was the founder. It is not only by the discovery of new facts that he was distinguished, but by the conception of general laws which illustrate both organic and inorganic chemistry. By the great

types of composition which, under the name of "radicles," he first spoke of, and by the researches to which these led, he guided not only his contemporaries, but will guide succeeding ages. He was also the first to found in Europe the great system of practical education. It was at Giessen he organised the first great laboratory of experimental instruction. With Lavoisier and Humphrey Davy, Liebig remains one of the three great lawgivers of modern agriculture. He studied with great success the chemistry of nutrition, and, by means of his researches, the superabundant food of other lands has been brought within the reach of those who want in Europe. Chloroform and chloral were the results of his researches. The anæsthetic value of the first was undiscovered for fifteen years, and twenty years elapsed between the discovery of chloral and its application to medical use by Liebreich. In whatever epoch, added the lecturer, we seek for models of human existence, we can find no two examples more conspicuous for their intellectual worth, more admirable for their lofty views of duty, than Michael Faraday and Justus von Liebig.

### CHLORALISM.

IN *Belgravia* for this month are published "The Confession of an English Chloral Eater," written by Dr. Gordon Stables, of the Royal Navy. The narrative is not apparently intended for fiction, though it is evidently written with that tint of extravagance which was requisite to make it a popular magazine article. We quote one or two passages from the history, as these are well calculated to check the too easy reliance on the innocence of the medicine which early reports of its action were calculated to engender:—

The stimulation (says the doctor) is not like that caused by opium or alcohol; it is not exhilarating, and does not incite to action either mentally or bodily. But the subject of the influence rises for a time above all his cares, or sorrows or fatigue, and seems to look on life through the medium of a rose-tinted glass. But while care and sorrow are forgotten, and a strange dreamy sense of perfect ease, comfort, and happiness takes their place, all affection and love are likewise banished. He is apathetic, and cares for nothing save his own sense of comfort. He is, if I might so express it, merely a living, breathing vegetable. In this state the confirmed chloral eater would stand by the deathbed of his nearest and dearest a passive spectator, if not indeed actually smiling; and for the same reason he would stand quietly on the scaffold until executed. If the dose is repeated without the chloralists lying down, speech becomes indistinct, the eyelids droop, and the gait in walking is affected, just as in drunkenness from alcohol. The chloralists, drunk in the first degree, is by no means an unpleasant companion. A stranger could mark nothing unusual about him; he is genial, and although rather languid and by no means bright in conversation, he is at all events a good listener, and is easily pleased, although his smiles often partake of the simpering or hysterical order, and, too, he is at times easily roused into an outbreak of furious passion, which dies away just as suddenly as it came, leaving no trace behind. But of course every one will not be affected precisely alike, as much depends on the idiosyncrasy or innate peculiarities of the chloralists.

The writer's personal experience with chloral commenced in December, 1871. He was suffering from sleeplessness, and, tempted by the medical praises of the new hypnotic, he began with doses of 20 grains. The "sweet restorer" answered promptly this enchanted call, and the patient, delighted with the power with which he found himself possessed, continued to use it. Very strikingly he describes the nature of the sleep which he could thus produce. "I observed," he says,

That on awakening in the morning I felt as if actually no space of time had intervened since I lay down. My life seemed a continuous never-ending day; I had no satisfaction from my sleep, and felt dispirited in consequence. If I had only taken warning now! But I did not; for this same sleepiness is the earliest symptom of that coming irritability, or chronic congestion of the brain, which the continuous use of chloral never fails to produce. About two months after I had begun taking chloral I first became sensible of a strange heat on the top of my head, together with a sense of fullness in the head. My nerves, too, began to be shaken. I could do things slowly, but any hurry or excitement at once confused me.

All this time, he says, he had no suspicion that it was the hydrate of chloral that was doing the mischief, and was treating himself for brain congestion. Things grew rapidly worse, till at the end of June, 1872, he writes:—

My bodily sufferings are very great, and my mind is a mere chaos. My face is so thin and white and worn, that I start at my own image in the glass. My eyes are constantly dilated, and the least excitement runs my pulse from sixty to a hundred. Towards evening my head feels as if frozen, and I sit in a numbbed stupor until bed-time. Undressing I feel is one of the labours of Hercules, and has to be done by degrees. I do not take my chloral—three drachms, enough to kill as many men—until I am in bed, and the house perfectly still; for the slightest noise would necessitate a double dose. When all is quiet, I drink and—

If I were not writing these confessions as a warning to others, I would draw a veil over my last experiences of chloral hydrate. For the first fortnight in December never less than five drachms of this medicine was my nightly dose. From the time I arose in the morning—for I still left bed daily, having a horror of it—my sufferings were extreme. I had now lost all power of reading, writing, or speaking aloud; any attempt to do either was excruciating brain agony, and if persevered in, fainting followed. I could hardly move my head from the pillow or sit erect, while my eyes seemed starting from their sockets if I attempted to walk. But towards night—well, if all of mental, all of bodily suffering I ever endured in life could be compressed into one hour, it would not exceed the torments I then underwent. Every vein in my body seemed swollen to double the size and inflamed along the whole length, while the restlessness was so distressing that I could not lie for five minutes in any one position. Add to this that time seemed indefinitely long—minutes as hours and hours as days—and you will have some faint notion of my experience of the “grand new remedy for sleeplessness that had no after effects.”

From the time of totally abandoning the use of the poison, however, he began to mend, though his recovery, he tells us, was a long and tedious one. Doubtless Dr. Stables' object is to warn his readers against indulging in chloral at their own discretion, not absolutely to condemn it when administered under medical care.

## TRADESMEN AS PUBLIC ANALYSTS.

In our last and current issues we have printed letters expressing moderately but forcibly the objection which is not unfrequently nor unnaturally entertained by the chemists of a district to the appointment of one of their own number to the position of Public Analyst for his own locality. Obviously, such an appointment by the local authority stamps the chemist thus selected, in the eyes of the public, with a sort of guarantee as a dealer in drugs of unquestionable genuineness. At any rate, this view is taken of it by purchasers, who assume that when they want medicines of ultra-reliability they had better go to the shop of the public analyst. Practically, too, it removes his establishment from the operation of the Act. For although the Act certainly provides precautions to prevent the analyst from knowing the source of articles submitted to him, yet, as a matter of fact, this machine-like ignorance on his part is not often attained. We are quite satisfied that no honourable man would ever use such authority as the position might give him to injure a trade rival; but the possibility does exist, and another chemist in the same town who might happen to be convicted of adulteration on the certificate of his competitor in business would be likely enough to suspect a motive somewhat lower than a simple desire to serve the public. To avoid such a suspicion a timid analyst might, too, be unduly inclined to report favourably of all samples of drugs submitted to him. For such reasons as these Dr. Lyon Playfair wishes to insert in the bill now before the House of Commons a clause prohibiting the appointment of any persons as analysts who are “engaged in the trade of buying or selling any article of food or drugs.” We cannot shut our eyes to the force of the objection. On the other hand, we remember that the best public analysts under the present Act have been generally the pharmaceutical chemists who have been appointed;

and it is also evident that men engaged in the buying or selling of drugs are the most competent judges of necessary purity. We shudder at the thought of being left entirely to the tender mercies of those fantastic theorists who condemn as a crime the sale of spirit of nitre, P.L., or scammony with a trace of the impurity which its collection necessarily involves. The way out of the dilemma is for Government to give us a few laboratories on the plan of the one at Somerset House, appointing chemists with fixed salaries and competent staffs, to whom there would be no temptation, either as regards business or fame, to get up show cases, and who would be thoroughly drilled into the accurate performance of their duties.

## AN IRISH PHARMACEUTICAL SOCIETY.

It is, we think, much to be regretted that the various parties interested in Irish pharmacy should have abandoned entirely, as it seems they have, all thought of union and co-operation with the Society representing the pharmacy of Great Britain. Ireland had much more to gain from such union than had the remaining section of the United Kingdom, and a Bill to extend the British Pharmacy Act to that country would have passed the Houses of Parliament much more readily than either of the schemes drawn up by interested and rival parties in Ireland itself. The Chemists' and Druggists' Society of Ireland has lately prepared a draft bill, copies of which have been submitted to the Chief Secretary and to Mr. Errington, which would organise an independent Pharmaceutical Society. It proposes to leave the Apothecaries' Company alone; nothing in the Bill is to interfere with the business of any legally qualified member of that corporation. But side by side with the apothecaries it would establish in Ireland legally recognised chemists and druggists and pharmaceutical chemists. Existing chemists and druggists would be admitted to the register under that title; and a modified examination would grant the same position to outsiders. Chemists and druggists would have the right of selling poisons, but might not dispense physician's prescriptions; this privilege would be limited to pharmaceutical chemists (always remembering that the existing rights of apothecaries are not to be interfered with). The title of “pharmaceutical chemist” would be granted by the Society after an examination in the Latin and English languages, Arithmetic, Botany, Materia Medica, Pharmaceutical and General Chemistry, Practical Pharmacy, the British Pharmacopoeia, and such other subjects, provided they do not trench on medical education, as the Council might from time to time determine. The Council would, we hope, take an early opportunity of adding Practical Dispensing to this category, seeing that is to be the one special qualification of pharmaceutical chemists.

The following are the persons named to form the first Council, all of whom we are informed have expressed their willingness to act:—Sir Dominic Corrigan, Bart.; Dr. Rawden MacNamara; Dr. Aquilla Smith; Dr. William Frazer; Dr. Charles H. Leet, B.A.; Thomas Collins, L.A.; Henry N. Draper, C. & D.; Charles R. C. Tichborne, Professor of Chemistry; Edward M. Hodgson, C. & D., President; William Hayes, C. & D., Secretary; John Goodwin, C. & D., Treasurer; William Allen, C. & D.; J. T. Holmes, C. & D.; Stanley Oldham, C. & D.; Robert Simpson, C. & D.; Charles Johnston, C. & D.; Patrick B. Bringham, C. & D., Dublin; Thomas R. Lester, C. & D., Cork; John Laird, C. & D., Limerick; Henry Bell, C. & D., Waterford; A. E. Doran, C. & D., Bray; Thomas G. Peel, C. & D., Armagh; W. R. Hamilton, C. & D., Newry; Samuel J. Conolly, C. & D., Athy.

The draft bill is very crudely drawn, and should have been revised before it was offered to criticism. For example, phar-



macetical students, apprentices, and assistants are referred to several times as forming part of the Register; but nowhere are we told what constitutes a pharmaceutical student, apprentice, or assistant. The Council, as will be seen above, consists mainly of chemists and druggists; as these may never become pharmaceutical chemists. They are to have the entire control of the examinations, and they may, if they like, for aught there is in the Act to prevent them, examine one another with all the ease in the world, and afterwards add Chinese or Syriac to the list of subjects, and so check the entrance of new members into their Society. The sixth clause gives them a curious power. It runs thus:—

The Council of the Pharmaceutical Society of Ireland shall have power to appoint and dismiss at any time a registrar and such clerks and other officers as may be requisite for carrying out the purposes of this bill, and also to pay suitable salaries to the said registrar, treasurer, clerks, and officers.

By this the Council is empowered at any moment, if such should be its good pleasure, to dismiss all the officers "requisite for carrying out the purposes of this bill," and thus practically to abrogate it.

If a Pharmaceutical Society is to be established in Ireland which is to interfere in no respect with apothecaries, but is merely to provide for the better supply of dispensaries to the country, why should apothecaries and physicians, who would be quite outside its range, form part of its Council? The apothecaries are not unnaturally interested in the regulation of pharmacy; and we suppose they would generally admit that "something ought to be done." If they would themselves come forward in a candid and liberal spirit, and institute reasonable examinations in pharmacy, not insisting on a medical curriculum for dispensers, they would sacrifice but little, and they would retain the control of the pharmaceutical profession in Ireland, organising out of its present discordant elements a combination which would have prospects of harmony and permanence.

## SWEETNESS AND LIGHT IN THE BLACK COUNTRY.

Two Papers on the adulteration question were read before the Society of Arts during the latter half of March—the first by Mr. J. A. Wanklyn, the Public Analyst for Buckinghamshire, the second by Mr. Wentworth L. Scott, Public Analyst for North Staffordshire, &c. Mr. Wanklyn's Paper was chiefly a study on the analysis of milk, but Mr. Scott, following the example of certain of his *confères*, made his lecture the opportunity for a swinging all-round attack on modern tradesmen. We are desirous of giving all possible publicity to these reckless displays of blind partiality, not because we think they are likely to effect any public benefit directly, but because they must indicate to reflective minds what tradesmen themselves have so frequently urged, that the great mistake of the Adulteration Act of 1872 was the astonishing credulity with which the reputation of the trading classes was entrusted to the assumed infallible judgment of anyone who might manage to get himself elected to the position of public analyst. In his lecture Mr. Scott compared the ancient trade guilds to the associations of tradesmen of the present day, much to the disadvantage of the latter.

There is (he said) this remarkable difference between the ancient craft-guilds and the modern associations, that the former were especially solicitous about the good conduct of their craftsmen generally, and professed to discourage adulteration and sophistication of all kinds, frequently depriving members of their own body of the means of following their calling, if convicted of such offences; while the licensed victuallers, the druggists, the grocers, and other associations of our time, not only express no material disapproval of such conduct, but frequently put the whole weight of their influence, organisation,

and finances against a much-needed prosecution, and are only too happy if they can succeed in defeating the ends of justice on any terms. Then the hat goes round pretty freely, the wrongs of the "injured tradesman" are trumpeted forth *ad nauseam*, and that suddenly celebrated individual sends a handsome donation to the association fund, lives happy ever after, and probably adulterates more than ever.

In the midst of this general moral degradation of trades and their associations there are, however, according to Mr. Scott, "a few exceptions;" and one bright particular star in the thick black darkness of the commercial firmament shines forth with such peculiar lustre that it is singled out for exclusive mention. This model to mankind is the Wolverhampton Chemists' and Druggists' Association! May it exist for ever, and as it has sprung into existence free from the original depravity which it would seem stains most other institutions connected with trade, so may it retain its pristine innocence unspotted from this wicked world through a long and glorious career.

## THE FRENCH PATENT MEDICINE TAX.

The French project of law for taxing pharmaceutical specialities has been published by its author, M. de Lorgèril. This gentleman regards the business as only next door to criminal; but he despairs of prohibiting it, and therefore he thinks the next best thing is for the Government to go shares in the plunder. He makes a series of most extravagant calculations, as a specimen of which may be mentioned his figures respecting the dealers in these pernicious wares. The official number of pharmacians in France is only 6,000, but he lumps pharmacians, druggists and herbalists all together, making 25,000 in all, and then assumes that a third of the total business transacted by these classes is in pharmaceutical specialities. By a heavy tax on these, and also on toilet preparations and mineral and artificial waters, he thinks he would secure for the revenue a total of 55,000,000 francs a year, out of which the expenses of collection would have to be defrayed.

## THE ELECTION OF COUNCIL

There are seventeen candidates for the fourteen vacant seats on the Pharmaceutical Council, which are to be filled next month. Two of the retiring members, Messrs. Radley, of Sheffield, and Stoddart, of Bristol, will not seek re-election; and Messrs. J. T. Davenport, Walter Hills, Thomas Myerson, and W. W. Urwick, who have been nominated as candidates, have intimated their unwillingness to accept office. The following are the gentlemen who will stand for election, those not on the last Council being distinguished by an asterisk:—

- \*ANDREWS, FREDERICK, 23 Leicester Terrace, Hyde Park, W.
- ATHERTON, JOHN HENRY, Long Row, Nottingham.
- BAYNES, JAMES, 24 Waterworks Street, Hull.
- BETTS, SAMUEL, CHAPMAN, 6 Park Street, Camden Town, N.W.
- BOTTLE, ALEXANDER, 7 St. Martin's Terrace, Dover.
- BROWN, WILLIAM SCOTT, 118 Market Street, Manchester.
- \*CLARK, WALTER, DEALER, 15 Belvoir Street, Leicester.
- \*CRACKNELL, CHARLES, 217 Edgware Road, W.
- FRAZER, DANIEL, 118 Buchanan Street, Glasgow.
- GREENISH, THOMAS, 20 New Street, Dorset Square, N.W.
- HAMPSON, ROBERT, 205 St. John Street Road, E.C.
- \*HAMBURY, CORNELIUS, Plough Court, Lombard Street, E.C.
- MACKAY, JOHN, 119 George Street, Edinburgh.
- RICHARDSON, JOHN GEORGE FREDERICK, 10 Friar's Lane, Leicester.
- REMMINGTON, FELIX MARSH, 6 Iwgate, Bradford, Yorks.
- ROBBINS, JOHN, 372 Oxford Street, W.
- SAVAGES, WILLIAM DAWSON, 4 Park Road East, Brighton.

It is most desirable that there should be a continual and gradual infusion of new blood into this Council. Two new men must get seats; whether this proportion of new blood is sufficient, and if not who is to be sacrificed, are questions which must be left to elective wisdom. There is no subject of sufficient magnitude in the pharmaceutical horizon to render the choice between honourable men a matter of great importance.

## PURE WATER IN PARLIAMENT.

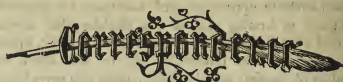
SIR WILFRID LAWSON and his supporters may hope for better success in their anti-alcohol crusade now that members of Parliament can for themselves test the merits of really pure water as a beverage. For some time there have been numerous complaints of the unwholesome character of the drinking water supplied to the Houses of Parliament. Several schemes were tried to overcome the evil without effect. At length, however, the Silicated Carbon Filter Company received instructions to fit up one of their main service filters in the Speaker's official residence. The result has been highly satisfactory, and the water drawn from the filter for the Parliamentary dinner on March 17 was everything that could be desired.

## THE NEWCASTLE CHEMICAL TRADE.

MR. BRASSEY, M.P., the umpire chosen by the arbitrators to settle the wages dispute in the Newcastle Chemical Works, and at Messrs. Hugh Lee Pattenson's chemical works, Felling, having made his award, which amounts to a reduction of wages equal to 10 per cent. all round, the men have resumed work. Mr. Brassey recommends the establishment of Courts of Arbitration and Conciliation on the Tyne for settling trade disputes.

## CHLORAL HYDRATE AS AN ANTI-DOTE TO STRYCHNIA.

A most extraordinary case of recovery from strychnia poisoning, due to treatment by chloral hydrate, is reported in last week's *Lancet* by Dr. Charteris, physician to the Royal Infirmary, Glasgow. On March 12, a butcher of that city, in a despondent condition, bought from a chemist two sixpenny packets of Gibson's Vermin Killer. These contained two grains of strychnia in each. Then he adjourned to the parlour of a public-house, bought some whiskey, in which he dissolved the contents of the two packets, added some ginger ale, and drank off the mixture. In order to make sure work of it he bought another draught of ginger ale, and drank it from the same glass, so as to dissolve any remnant of the poison. This was about 11.30 A.M. Then he walked across the street to a butcher's shop and asked to be allowed to sit down. A succession of tetanic fits ensued, and these seem to have continued for several hours. About 1 P.M. an emetic of hot water and sulphate of zinc was given, which, however, produced only partial vomiting. It was 5.30 P.M. when he was brought to the Royal Infirmary. He was in great agony: violent tetanic spasms followed each other in quick succession, increasing in severity. With great difficulty the stomach pump was passed, but only some sour watery fluid was withdrawn. At 4.50 P.M. 10 grains of chloral hydrate in syrup were administered. Twenty minutes after the dose was repeated, and at 5.30 20 grains were given. Immediately afterwards there was a severe and prolonged spasm, succeeded by a flaccid state of the muscular system, hurried respiration, quickened pulse, and drooping eyelids—phenomena which indicate the effect of chloral. Three more doses, ten grains each, were administered between this and 9.30 P.M., the symptoms of poisoning subsiding. The patient was dieted on milk and rice, and in four days had completely recovered. He said if he wished to die again he would choose something other than Gibson's Vermin Killer. Dr. Charteris afterwards tried some experiments on rabbits, and found that the administration of chloral hydrate after strychnine most decidedly checked the poisonous effects, though in one case where a longer interval had been allowed to elapse between the poison and the antidote the animal was paralysed from the middle of the spine downwards. It is stated, also, to account for the slowness of the action of the strychnine in the man's case, that he had previously taken a substantial breakfast of ham and eggs.



## TRADE WITH AMERICA.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—A trading nation like the British naturally desires to adopt the most effective methods of sustaining and increasing the commerce they have already established with various foreign countries, not to speak of preventing its diminution.

As a citizen of America, which nation has found its advantage in doing a handsome amount of business annually with your country, I think this is a proper moment, being one of general depression, both in England and in the United States, to offer some brief observations in regard to the future prospects of business between the two countries.

I may as well say at once that my personal opinion is that the greatest exporting nation of the world does not even yet comprehend the enormous absorbing, and consequently purchasing, power of my country. It is true we have bought many millions sterling per annum of British productions, mostly useful, some, I must say, useless. The larger portion of our purchases has been paid for in bankers' bills of exchange, drawn against our staple products, such as cotton, corn, pork, butter, cheese, and other eatables. Perhaps you have a superstition in England that when we load you up with first mortgage bonds on railways in the Sioux country we are paying for your merchandise by drafts on the proceeds. This is not literally the case, allow me to say. During the past forty years we have built more miles of railway than exist to-day in all Europe, and I believe the official statistics justify me in stating that not one-eighth of their entire cost has been defrayed by European capital.

The frequent appearance in London of railway borrowers, for comparatively insignificant sums, affords no basis for British capitalists to pride themselves upon supplying the money to make our internal improvements.

Certainly, we have received considerable loans from your investors, oftentimes to aid shadowy enterprises. If they make a bad choice, we are not to blame; there are plenty of safe projects constantly placed before you, and which do not get understood.

All this, Mr. Editor, if justification be required, of the grand business operations in my much discussed country.

At no distant day, I have no doubt, the British capitalist will understand us better, and be able to put his finger upon the proper thing in which to risk his money.

As yours is a periodical devoted to a special kind of business, I beg to improve the occasion by adding a few observations in reference to the ways and means of extending business in the various departments prosecuted by the clients of your journal.

At this moment the Americans are light buyers. I need not go into the reasons for this, as they are well known.

Almost every decade our American business men experience a sudden pull up—why, they find it difficult to say; but the simple fact is that they trade with such a fervour that it is only about once in ten years that they stop to breathe and send round the ambulances to pick up the debris.

Our ambulances are now out gathering up the fragments.

The battle-fields will soon be ploughed over anew, and the future crops will be more and more astonishing.

Ergo, the millions sterling that young America has bought and paid for in old Europe are but a preface to her future acquisitions.

You will not have long to wait—we recuperate rapidly. The back country is buying light and economising; the weak traders have gone to the dogs, or are well on the way, and there will soon remain only the staunch, conservative business men, of which there is no lack in the States, and who are always safe and solvent.

Now, Mr. Editor, to bring this whole matter directly home to THE CHEMIST AND DRUGGIST's circle of readers, let me add, in conclusion, this much-to-be-desired business revival is about to take place; that restless being, the American *commerçant*, never "lies on his oars" very long.

During the present season, the 20,000 American, distributed over Europe.

Almost everywhere, certain cities, the population for rent, enterprise, trade, and so on. There are at least a dozen of these, and the signs of the coming, do not, and more material value to I have the

London: April

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During the present year I confidently expect a large increase in transactions.

The 20,000 American chemists and druggists are, as you well know, distributed over an acreage as large as the entire territory of Europe.

Almost everywhere throughout that magnificent transatlantic domain exist cities, large towns and flourishing villages, ranging in population from five thousand to a million. All is movement, enterprise, trade struggle, and unbounded initiative.

You can easily imagine the extension of business possible with such a people.

There are at least 100 cities in the United States of America ready to do a *direct import trade*, jumping over, as it were, the great seaports, and suppressing the intermediate commissions.

The signs of the times point to this, and I will, in this communication, do no more than simply indicate them, reserving for another and more detailed letter some hints which may be of practical value to your drug, chemical, and speciality exporters.

I have the honour to be, Sir, your obedient servant,

SPREAD EAGLE.

London: April 12, 1875.

#### DR. CAMERON AND DISEASE GERMS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

DEAR SIR,—I beg to thank you for the review of my book on hygiene which appears in your number for this month, and which has evidently been written by one "well up" in scientific matters. I was, however, much surprised to learn from the reviewer that I had positively stated my belief in the existence of disease germs in one page and "questioned it on the next." I have looked through the chapter on contagion very carefully, and can nowhere in it find any doubt expressed on my part with respect to the existence of disease germs, or at least of some minute entities, as factors essentially concerned in the production of zymotic diseases. As I hope soon to bring out a new edition of this book, would it be asking too much of your reviewer were I to request him to point out where the contradiction above referred to occurs, so that I may correct the mistake?

I remain, dear sir, faithfully yours,

C. A. CAMERON.

16 Pembroke Road, Dublin, March 22, 1875.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—In my review of Dr. Cameron's book I alluded to scientific defects arising, as I thought, from hasty writing. I stated that I found "the existence of disease germs positively stated on one page, and questioned on the next." If the author turns to page 72 he will find he has said—"It is, however, doubtful whether or not the germs of typhoid fever and Asiatic cholera which undoubtedly exist in water can be perfectly removed by filtration on a small scale." And on the next page the following sentence occurs:—"It is doubtful whether or not permanganate has the power to destroy the germs of disease, *supposing such bodies to exist.*" The italics are my own.

THE REVIEWER.

#### THE APPOINTMENT OF TRADESMEN AS PUBLIC ANALYSTS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

DEAR SIR,—Surely there can be none but the directly interested who would applaud the proposal to confide the official supervision over the wares of the druggists of any particular town to one of their number who should compete with them for public favour in the sale of the commodities supervised, and should be paid in part by them out of local rates a salary for his services.

Add to this that our "borough analysts" wondrous cleverness in detecting frauds on the public is periodically set

forth in sensational columns in the local press, and we can form some idea of the conditions under which equally honourable men will have to compete with their lucky brother druggist.

Thanks to the wisdom of those proverbially blundering and illogical bodies of men we call our "local parliaments," we have in several towns the farce above sketched in full operation, and the law thereby brought into considerable contempt in the minds of thinking and intelligent persons.

In one, indeed I may say two towns, to my knowledge, this most invidious class of appointment has led to serious loss to many chemists, and a corresponding fattening of the analyst's trade, a result it needed but little sagacity to have foreseen. "Oh, I get my more particular drugs from the analyst himself now, so as to be sure they are quite pure!" is the common and very natural reply made by the customer to a chemist who ventures a hint as to a certain accustomed article being no longer required. This is insult added to injury, and vested interests, the result often of years of patient honourable labour, quietly set at naught.

Happily, however, there is a remedy if those members of our trade who are aggrieved at this anomaly and rank injustice will but be true to themselves, and make a little exertion in the way of writing to members of Parliament, placing the matter briefly and lucidly before them, and when practicable, getting up a petition. I have myself received from several leading members of the House of Commons (indeed, all to whom I have written) most satisfactory replies, fully agreeing with my view of the matter; indeed, I have every reason to believe that Parliament may be easily induced to add to the new Bill a clause making traders ineligible for the purely professional office of public analyst.

In the interest of our boasted English sense of fairness, and against those of rapacity and presumption, such a consummation is devoutly to be wished for. No time should be lost by those who intend to lend a helping hand.

I am, yours, &c.,

April 9, 1875. "FAIR PLAY ALL ROUND."

#### VALUE FOR MONEY.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—The correspondents of the *Pharmaceutical Journal* have lately been much exercised concerning a letter subscribed "Veritas," and telling us how many, or rather how few, years it takes to make a fortune. Now, knowing how desirable an object this must seem to us all—however far removed from probability—it appears to me that it will be most encouraging to my less hopeful brother-chaps to instance a case in which this has been done; a case in which economy, tact, business ability, abundance of patronage, and the other ingredients enumerated by "Veritas," not only may lead to, but actually have produced this happy result. It would of course be useless to adduce some obscure country chemist, whose name would have no significance to your readers, while we have to hand a most notable establishment that will thoroughly answer our purpose. The only wonder is that "Veritas"—or another wise man on the same side—did not stambole over it in his mental perambulations, for he would surely not have hesitated to back his pound of theory with the ounce of practice had the opportunity occurred to him.

This firm is—and I write the name not without respect—the Pharmaceutical Society of Great Britain; and where will you find a smaller beginning, a sterner care of the pennies, a more handsome total of funds accumulated, and a more prudent, I will not say judicious, investment of the same. Many of us have dealt at this shop, and of course all are not of the same opinion as to the value received for our money, but few would assert that the Society has squandered what they have obtained, and we might easily show even those few that what seems to them extravagance, when more closely examined, is really a splendid economy, a masterpiece of finance.

This accumulation on the part of the Society is, after all, very encouraging to the trade at large when looked at from the right point of view. For to what end is this economy? No doubt it means either shutting up shop or handing the business over to your hand, and let us hope, more enterprising management—the latter being decidedly preferable. It may be objected to this that the Council are the chemists' parliament, and that

having elected them, we should submit ourselves humbly to their guidance. The row about the poison regulations is sufficient answer to this. The fact is, the Council is no parliament. The members simply elect the most honourable and honest men they can hear of, knowing—except in very rare instances—nothing of their opinions on trade questions till after they are elected. Whereas, in Parliament the candidates publish to the fullest extent their views on the main questions of the day; or, at any rate, they are most explicit as to the line they will adopt with reference to them.

The business of a chemist and druggist consists—or should do—in supplying things that no one likes or enjoys, or would dream of purchasing but for their necessity; and this the Council, being a homogeneous compound of chemists and druggists, have naturally enough adopted. But this idea is a mistake, both in the Pharmaceutical Society and out of it; for, to follow the idea, a man may be compelled to get his physic at a shop he dislikes, but he will not go there for his soda-water and tooth brushes, and though the Society must get their examination fees, yet lecture fees, associates, and memberships are by no means a matter of course.

Trusting this letter may furnish something for reflection in high quarters, I have penned it, knowing that in my own small circle my views are not absolutely singular.

I am, sir, yours faithfully,  
A DISMEMBERED MAJOR.

### HOMŒOPATHY AND ITS FOES.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

SIR,—It would be interesting, as a matter of curiosity, to know whether the statements given in the *Medical Press and Circular* (September 9, 1874), or the totally different assertions in the *Lancet* (April 3, 1875), furnish the true explanation of the sectarian and hostile attitudes assumed by the allopathists towards their professional brethren of the homœopathic school.

The former are as follows:—"The medical profession regards with the most perfect toleration the theory and practice of *similia similibus*, and it is a gross misrepresentation to state that homœopaths are ostracised for holding this dogma or practising on this principle. The medical profession recognises the perfect right of any practitioner to hold any views, however ridiculous and unscientific, and to apply such theory in his practice, so long as he does so with honest confidence in its efficiency. Homœopaths are not permitted association with the profession, because it is impossible for intelligent minds to place any charitable construction on the practice of infinitesimalism." Again, "The medical profession does not put hydrophaths in the same category as homœopaths, though the great majority of its members believe the universal practice of water-doctoring to be a delusion and a snare."

Now, though it is certainly rather surprising to learn from the above extract that the medical profession—a *soi-disant* scientific profession—is fully prepared to regard the holding of any "ridiculous and unscientific theory," and the carrying out of the same into practice on the part of its members, with perfect complacency, it is at the same time somewhat curious that its dominant sect should feel it necessary to ostracise an entire community on account of difference of opinion as to the mere subordinate detail of posology. Still, the statements are perfectly intelligible, and explicitly declare that it is this mere question of the dose which occasions the "ostracism." The allusion to the hydrophaths plainly shows that (according to Ed. M. P. and C.) such ostracism has nothing whatever to do with the holding a doctrine to be of universal, and not merely of partial, application.

What, then, are we to think of the statements of the *Lancet* (April 3, 1875)? In a silly note appended by the editor of the *Lancet* to an excellent letter of Dr. Dudgeon's, there occurs the following direct contradiction to the statements of the Ed. M. P. and C.:

"Let these practitioners erase the name of homœopathy from their writings, their hospitals, and their societies; let them undeceive the public by openly declaring, as Dr. Dudgeon has done, that they do not exclusively practise homœopathy, and that they do not even believe in the general applicability of the

system, then we also shall cease to make use of the opprobrious epithet."

Now, here not a word is said about "infinitesimalism" (to use the elegant hybrid of the M. P. and C.), and the reason of the opprobrium in which the "homœopaths" are held is explicitly declared to be the fact of the latter believing the law of similars to be of wider applicability than the "allopathists" (who are, by the laws of their own trades' union, forbidden to test it) are in general disposed to acknowledge. The editor of the *Lancet*, indeed, admits that the use of the term "homœopathy" raises in his editorial bosom somewhat of a spirit of petty persecution, analogous to that which the assumption of territorial designations on the part of Romish prelates kindled in the Protestant breasts of the framers of the "Ecclesiastical Titles Act," but still the head and front of our offending—the ostensible ground of the "muzzing" practices resorted to by the "allopathists" against us—is our belief in a wider operation of the law of similars than the *soi-disant* "orthodox" admit. This your readers will admit, is a direct contradiction of the editor of the *Medical Press and Circular*. Which learned editor are we to believe? "Who shall decide when" such "doctors disagree?" As to principles (like most of their sect) they are diametrically opposed; they only agree in thinking that a sectarian and persecuting policy is that which best becomes a "liberal" profession. But, in truth, this kind of alliance need surprise none who can remember that, nearly a quarter of a century ago, two such bitter antagonists as the late Professors Syme and Simpson, of Edinburgh, not only laid aside their mutual animosities when a "raid" on the homœopaths had been agreed upon, but even so far forgot their personal feelings that a mutual "serving up of butter on a lordly dish" ensued—though, ere many weeks, each was again much more disposed to treat his opponent to the nail and hammer of Jael than to the oleaginous hospitalities of that treacherous lady.

Two other sentences of the editor of the *Lancet* must be here noticed, not, indeed, like the preceding, on account of their discordance with the general assertions of members of his sect against "homœopathy," but rather by reason of their strict accordance with the same, inasmuch as they display either (1) an amount of gross and culpable ignorance and obtuseness, wholly disqualifying whoever uttered them for the post of editor of a medical periodical, or (2), which, I fear, seem more probable, an amount of wilful and deliberate mendacity such as to deprive any assertions of the same person of any claim to belief. However, I will adopt the former more charitable, even if less likely, supposition.

"It is not a little curious that the death blow of homœopathy should be dealt by one of its reputed heads in the country. We congratulate Dr. Dudgeon, the English translator of Hahnemann's 'Organon,' on the courage he has displayed, especially at this juncture, of (sic!) publicly renouncing the name of homœopathy, and in acknowledging that he avails himself of all the resources of therapeutics, including homœopathy."

As the editor of the *Lancet* is my professional brother (although from the envy and malice he has uniformly displayed to the school to which I have the honour to belong, one is tempted to suspect the "abatement" of the "cursed band sinister" on his professional escutcheon), I will be sufficiently courteous to suppose the glaring untruths in the above rhapsody to be the fruits of sheer ignorance and honest stupidity; if such a charitable supposition is correct, he and others who, like him, are entirely ignorant of the doctrines of the "Organon," will feel indebted to me for enlightening them a little on a subject of so much importance in the history of medicine. It is true this has been already done in a terse and admirable manner by Dr. Dudgeon in his letter and elsewhere, but as that learned gentleman's concise and masterly exposition seems to have proved too "strong meat" for the infantine intellectual stomach of the editor of the *Lancet*, possibly the latter, and others equally ignorant, may find the diluted "milk" of so humble a disciple as myself a more readily assimilable aliment, at least until, by reason of use, they shall have their senses exercised to discern good and evil.

Let it be known, then, that "by acknowledging that he avails himself of all the resources of therapeutics, including homœopathy," neither Dr. Dudgeon nor any one else would "deal the death-blow to homœopathy," to use the editor of the *Lancet*'s somewhat grandiloquent metaphor. All that homœopathy was ever held to do was to indicate the law which should guide us in the selection of the drugs or other direct treatment which had in view the permanent and radical cure of a constitutional

No one ever... which, according... of mitigation by... it was always... sufficient urge... any one. To op... Dudgeon's transla... cases, where dan... able and judicious... and electricity... gradual admini... the most place... personal resources as... meiosis. Finally, surgical co... were always ackn... own. Lastly, in question... so forth, no one... only indication... If the allopathists... medical professi... of trades-men... issue that have... those, they have... o-hallings, altho... generally have b... they remain in... it has to a... themselves.

Calverley Parson... April

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disease. No one ever denied that, but too many cases, alas! occur which, according to our present knowledge, must be pronounced incurable, and yet the painful symptoms of which admit of mitigation by means of "palliatives." In the next place, it was always granted that individual symptoms may possess sufficient urgency to call for immediate removal at almost any cost. To quote the words of the "Organon" itself (Dr. Dudgeon's translation, s. 67, p. 169):—"In the most urgent cases, where danger to life and imminent death allow no time for the action of a homoeopathic remedy . . . it is admissible and judicious as a preliminary measure to stimulate the irritability and sensibility with a palliative, as, for instance, with mild electrical shocks, clysters of strong coffee, stimulating colours, gradual administration of heat, &c."

In the next place, Hahnemann availed himself of all such physical resources as heat, cold, electricity, friction, magnetism, even mesmerism.

Thirdly, surgical cases, cases of acute poisoning, and the like, were always acknowledged to require special treatment of their own.

Lastly, in questions of diet and regimen, anæsthetic treatment, and so forth, no one ever supposed the law of similars to afford the only indication.

If the allopaths wish to resume the position of members of the medical profession, instead of that which they at present occupy of trades-unionists, this can only be by their frank admission that while we have stood firm and immovable in our positions, they have, one by one, abandoned theirs. Their blood-lettings, salivations, purgations, and "heroic" treatment generally they have been compelled by us to discard—our *similia similibus* remains in *statu quo*, so far as we are concerned, while it has to a great extent been surreptitiously adopted by themselves.

Your obedient servant,

W. B. A. SCOTT, M.D.

6 Calverley Parade, Tunbridge Wells:

April 5, 1875.



PREPARING FOR EXAMINATION.

A YOUNG man named Samuel Cowap, assistant to Mr. Bird, chemist, 42 Castle Street east, Oxford Street, was charged at Bow Street Police Court, before Mr. Flowers, with inciting one George Austin to steal an examination paper of the Pharmaceutical Society from his employers, Messrs. Stevens & Richardson, printers, of 5 Great Queen Street, Lincoln's Inn Fields. Mr. Douglas Straight, instructed by Messrs. Flux & Co., solicitors to the Pharmaceutical Society, appeared for the prosecution.

Mr. Straight, in stating the case, explained that the paper which the prisoner had endeavoured to obtain was for the Preliminary Examination. He called

Mr. George Austin, who said: I am employed by Messrs. Stevens & Richardson, of Great Queen Street. They are the printers for the Pharmaceutical Society, and among other things they print the *Pharmaceutical Journal*. They also print the examination papers for the Society. When these papers are printed they are in the custody of Mr. Richardson, one of the partners. To obtain a copy I should have to break open a lock.

On Thursday last I was engaged on the *Pharmaceutical Journal*. It was between eight and nine, I think, in the evening. A lad, named Bladen, came up to me and made a communication, in consequence of which I went downstairs. There was no one at the door, but the prisoner was crouching opposite under a public-house lamp. On seeing me he crossed over and spoke to me. He asked if I was engaged on the *Pharmaceutical Journal*. I said I was. He then said: Do your employers print the

examination papers? I said: Yes. He asked: Can you let me have one? I said: No, I can't. Not knowing what to do, I said: They have not gone to press. He then told me that he was not a spy; that he had not come to spy out, or words to that effect. It had struck me that he was sent by the Pharmaceutical Society to see if I was trustworthy. The prisoner continued: Well, to tell the truth, I will give you half a sovereign if you can get me one of those examination papers. I have a young friend reading with me who is very deficient and can't pass this examination unless I can get one of these papers. I then said to him: Well, you know the risk I run in this matter (I had then made up my mind to let my employers know all that took place). He said: I do, but you can trust me. If you are true to me you will have nothing to fear from me, or words to that effect. I then asked him whether he could make an appointment. I asked if Saturday would do. He assented, and then the spot was fixed, whether by him or by me I don't remember. It was at the corner of the Tottenham Court Road, where the omnibuses stop. I don't know which corner. This being settled, the prisoner asked me to have a glass, but I refused. We then parted. I then returned to my employment. On the following morning I saw my employer, Mr. Richardson, at eight o'clock, who sent me with a letter to Mr. Richard Bremridge, assistant secretary to the Pharmaceutical Society. I received some instructions from Mr. Bremridge. On the Saturday at one o'clock I again saw Mr. Bremridge, and with him Sergeant Butcher. At four o'clock on this Saturday afternoon, that is April 3, I went to the corner of Tottenham Court Road, with the examination paper (produced in court). I met the prisoner, who said: Are you alone? I said: Yes, but are you alone? for you know the risk I run. He said: Oh, you have nothing to fear. We then went into a public-house, where I said to him: Is this for yourself? He said: It is. I asked him: Why did you tell me it was for someone else? He did not answer that, but said: I am very well up, but am not confident of passing without the papers, or something to that effect. He made me understand that without those papers he could not pass. He said that the greatest difficulty was in the translation of "Cæsar." I said to him: You are not selling me? and he again replied: No; you have nothing to fear. I then asked him whether he could bring me other business, and he then said: I know other students who would be glad to deal with you, but not for this examination. The examination, the paper for which I had given him, was to take place to-day (Monday). I opened the paper and said: That's it. He then handed me the half-sovereign and I gave him the paper. Detective Butcher, who was at hand, immediately took him into custody.

On this evidence a remand to the 9th inst. was granted, in order to give the prosecution time to ascertain whether the accused had acted for some other person or for himself alone.

When the case came on again Mr. Straight stated that inquiries had shown that the prisoner was not in the employment of any "coach," but had succumbed to the temptation of making sure of his examination. Under these circumstances, Mr. Straight had advised his clients to ask the magistrate's permission to withdraw from the case, but at the same time he wished the public to understand that it was only this individual case that would be thus dealt with. Should such conduct be repeated, the offender would be prosecuted and brought to conviction and punishment, if possible. It was only in the present case, on account of the prisoner's good character and the fact that Mr. Bird, his employer, would continue to employ him, that the Society asked to be allowed to withdraw.

Mr. Flowers said he quite agreed that this was an exceptional case. He believed himself that if the prisoner had had the luck to go through his examination without trying to cheat he would have passed. Taking into consideration all that had been urged by Mr. Straight, he should offer no objection to the charge being withdrawn.

The prisoner was therefore discharged.

#### THE SALE OF METHYLATED SPIRITS.

MR. CHARLES DOWNS, surgeon, 13 White Street, Borough, was summoned at the Southwark Police Court, on the 8th inst., by the Excise, for selling methylated spirits without a license.

Thomas Winslow, an officer of the Excise, said that on the 5th of February he went to the defendant's surgery and asked

for half-a-pint of methylated spirits. The assistant served him and took the money.

The defendant said his was an open surgery, and he only kept a small quantity for use. He never sold any at any time. When the Excise officer came for the spirit his assistant, who had only been three weeks in his service, let him have all he had, which was very little beyond a quart, as he was not aware of the law.

A long discussion took place as to the liability of Mr. Downs for the act of his assistant, and Mr. Powell cited several cases from the Law Reports to support the complaint, and added that if otherwise they would have great difficulty in enforcing the revenue laws.

Mr. Benson said it had not been shown to his satisfaction that defendant knowingly sold the spirit; therefore he dismissed the summons.

Messrs. HARDY & SIMPSON, chemists, Great Dover Street, Borough, were summoned for a like offence.

Thomas Winslow said that on the same day Mr. Hardy served him with half a pint of methylated spirits. He was not licensed to sell it.

The defendants having pleaded guilty,

Mr. Benson fined them in the mitigated penalty of 12s. 10s.

#### IMPORTANT TO SODA-WATER MAKERS.

At Marlborough Street, on the 8th inst., Mr. Thomas Codey, mineral water manufacturer, 88 Whitfield Street, St. Pancras, was summoned before Mr. Knox for allowing the discharge of mineral waters and other offensive matters and the deposit of the residue from the manufacture of aerated waters into the sewer.

Mr. Cooper, solicitor to the Vestry of St. Pancras, prosecuted; Mr. Edward Lewis was retained for the defence.

Mr. Cooper said that one flushman had been killed on entering the sewers, and others so affected that they refused to go down. The defendant discontinued for some time the practice of discharging refuse into the sewer, but on February 18 it was found that he had resumed the practice, and the present proceedings were instituted.

John Hartley, inspector of nuisances for St. Pancras, proved serving notice on the defendant to discontinue the nuisance. He went down the sewer on February 18, and saw some refuse from the drain brought out by a man named Francis. The refuse was very offensive matter, and made him giddy when he stood over it. The matter appeared to be a sediment of lime.

Thomas Francis, foreman of the flushers of St. Pancras, proved taking some of the matter from the sewers. He considered it was dangerous to health. One flusher had lost his life through it, and others had been made ill.

Replying to Mr. Lewis, witness said he had been ill previously. After going down the sewer he was attacked with giddiness. He took some medicine the next day.

Medical evidence having been heard, Dr. Stevenson, lecturer on chemistry at Guy's Hospital, stated that he had examined the stuff taken from the sewer. The deposit was a white solid substance such as forms the refuse from aerated-water factories and ordinary sewage. The refuse from the soda-water consisted of whitening and product of the action of oil of vitriol and whitening, known as sulphate of lime. The refuse was odourless, but when shut up with sewage it underwent decomposition and lost oxygen. The carbonic acid of the sewer, by its action on the decomposed refuse, liberated from it a poisonous gas known as sulphuretted hydrogen. The white refuse also detained the sewage mechanically that caused its decomposition *in situ*. The refuse thus acted deleteriously both mechanically and chemically.

Mr. Lewis said he was prepared to show by other professional evidence that the charge of causing a nuisance could not be sustained, and that no danger to health was to be feared from the practice of the defendant.

Mr. Wanklyn, analyst, said he had examined some soda water refuse, and found that it contained 2 per cent. of free sulphuric acid. Such a refuse if diluted with water would act as a disinfectant, and would not liberate noxious gases from sewage, for the quantity of liquid would be more than sufficient to dissolve all the sulphuretted hydrogen liberated by the action of the acid.

Mr. Cooper wished to put in the joint opinion of the Solicitor-General and Mr. H. B. Bland.

The opinion was to the effect that a magistrate could make an order on the manufacturer under section 12 of the 18th and 19th Vic. cap. 121.

After reciting several decisions and cases, the counsel went on to say that the case submitted to them was important to the Vestry of St. Pancras, as the men sent into the sewer to flush it as required could not do their work without having their health injured. As the question was not free from doubt, though if a magistrate gave an order of prohibition they had no doubt it would be sustained, they would suggest that the magistrate, if requested, should state a case for the opinion of the superior courts.

Mr. Knox said he was prepared to give his decision, and, after referring to cases decided by Justices Mellor and Blackburn, remarked that there was a conflict of evidence in the case before him, one scientific gentleman stating one thing, and another something different. Under these circumstances he felt compelled to rely on the evidence of the medical gentlemen on the part of the parish, that putting the refuse matter into the sewer was injurious to the public health. He should therefore make an order that the nuisance be discontinued, and if Mr. Lewis thought proper to ask for a case he would give one. At the same time, he would suggest to the defendant the expediency of mixing water freely with the refuse, so as to render it harmless.

#### LONDON BANKRUPTCY COURT.

P. R. QUICKE, Chemist and Druggist, Buckingham Palace Road.

THE debtor had filed a petition for liquidation, and the meeting of creditors was held on March 18, when it was determined that the estate should be liquidated by arrangement, Mr. J. Boyes, accountant, 2 Carey Lane, being appointed trustee; the creditors also resolving that the debtor's discharge should be granted on the trustee certifying that he was entitled thereto. The unsecured debts were returned at 669*l.*, and debts for which security is held, 200*l.*; with assets, 414*l.* 14*s.* The following are in the list of creditors:—

	£	s.	d.
Apothecaries' Hall .. .. .	163	4	9
Maw, Son & Co., Aldersgate Street .. .. .	80	0	0
R. Cook, 18 Warwick Street, W. .. .. .	50	0	0
Barron & Squire, Bush Lane .. .. .	27	6	5
Mrs. Starn, Edgemoor .. .. .	24	15	9
Hill & Son, Southwark Street .. .. .	24	4	8
Meggison & Co. .. .. .	17	7	0
S. Collins, 70 Buckingham Palace Road .. .. .	14	5	10
Blankly & Co., King's Road, Chelsea .. .. .	11	5	6

The case was before Mr. Registrar Keene on April 9, when, on the application of Messrs. Laurance & Co., His Honour ordered the resolutions to be registered.

WILLIAM HOULDER, SON & Co., Chemical and Vitriol Manufacturers, Upper Thames Street, and Southall.

This case has been already noticed in this journal. The meeting of creditors was recently held, and a statement of affairs was submitted showing unsecured debts, 14,167*l.*, in addition to secured debts to the amount of 1,700*l.*; with assets, 6,814*l.* A composition of 1*s.* 3*d.* in the pound was accepted, payable by the following instalments:—5*s.* on April 30, 2*s.* 6*d.* on May 30, 1*s.* 3*d.* on July 30, and 2*s.* 6*d.* on September 30, the dividends to be payable on demand at the office of Mr. C. S. Houlder, 80 Aldersgate Street.

DR. HORACE DOBELL, who for sixteen years has been Physician to the Royal Hospital for Diseases of the Chest, has lately been promoted to the post of Consulting Physician.



## THE CHEMICAL SOCIETY.

Thursday, March 18, 1875.

PROFESSOR ODING, F.R.S., in the chair.

After the ordinary business of the Society, the President called on Dr. Hofmann to deliver the Faraday Lecture, the title of which was "Liebig's Contributions to Experimental Chemistry." After noticing the labours of the great experimental thinker in whose honour the Lectureship was founded, he gave a succinct account of Liebig's chief contributions to chemistry, drawing the attention of his hearers to the fact that it was he who first founded the great institutions for chemical education, and that he was not only the discoverer of numerous general methods, and the investigator of innumerable organic compounds, but that therapeutics and agriculture were especially indebted to him. The lecture, which was experimentally illustrated by Professor McLeod, took place at the Royal Institution in the presence of His Royal Highness the Prince of Wales and a crowded audience, amongst whom were nearly all the leading chemists of this country.

Thursday, April 1, 1875.

PROFESSOR ADER, F.R.S., in the chair.

After the usual business of the Society, "Researches on the Action of the Copper-Zinc Couple on Organic Bodies. VIII. On Chloroform, Bromoform and Iodoform," by Dr. J. H. Gladstone and Mr. A. Tribe, was read by the latter. Dr. W. A. Tilden then read a Paper "On the Action of Nitrosylchloride on Organic Bodies. II. On Turpentine Oil." The action gives rise to a molecular compound of terpene and the chloride, which by the action of alcoholic potash yields nitrosoterpene,  $C_{10}H_{16}NO$ . Dr. A. W. Hofmann made two communications to the Society, one on the decomposition of the fulminates by ammonia and by sulphuretted hydrogen, the other a striking lecture experiment showing the atomic relations of oxygen and chlorine. The meeting was then adjourned until Thursday, April 14, when Papers will be read—1. "On the Gases Enclosed in Coals from the South Wales Basin," by J. W. Thomas; 2. "On Narcotine, Cotamine, and Hydrocotamine," by G. H. Beckett and C. R. A. Wright; 3. "On Isomeric Change in the Phenol Series," by H. E. Armstrong; 4. "On Arsenite and Chalkosiderite," by N. S. Maskelyne; and 5. "On the Separation of Iron Sesquioxide, Alumina, and Phosphoric Acid," by W. Flight.



[The following list has been compiled expressly for the CHEMIST AND DRUGGIST by L. de Fontaine-mémoren & Co., Patent Agents, 43 Rue des Fossés, London; 10 Rue de la Fidélité, Paris; and South Road des Minimes, Brussels.]

Provisional Protection for six months has been granted for the following:—

248. H. Jones and J. Davies, of Ruthin, Denbigh, North Wales. Improvements in apparatus or appliances for stoppering bottles containing aërated and other liquids. Dated Jan. 22, 1875.
262. H. Aylebury, of Gloucester. Improvements in stoppers for bottles for containing aërated and other liquids. Dated Jan. 23, 1875.
490. L. Vallet, of Liverpool. Improvements in stoppers for bottles for containing aërated or gaseous liquids, and in apparatus employed for bottling such aërated or gaseous liquids. Dated Feb. 10, 1875.
588. A. Howat, of Manchester. An improved mode of and apparatus for filling, closing, and drawing off the contents of bottles containing soda water and other effervescent liquids. Dated Feb. 17, 1875.
756. N. Thompson, of Brooklyn, New York, U.S. Improvements in means for stoppering bottles, jars, and other hollow articles, and in means for facilitating the removal of such stoppers from the articles to which they are applied. Dated Mar. 2, 1875.
900. H. B. Pare, of Bolton, Lancashire. An improved cap for feeding or other bottles. Dated Mar. 4, 1875.

Letters Patent have been issued for the following:—

3055. H. Bolleter, of Foley Street. Improvements in the means and processes employed for treating and preserving animal substances for use as food. Dated Sept. 5, 1874.

3101. S. Atkins, of St. Albans, Herts. Improvements in stoppers, valves, and apparatus for filling and discharging bottles, vessels, store chambers, mains, or other holders used for containing fluids, liquids, gases or vapours. Dated Sept. 10, 1874.
3213. W. P. and C. E. Cherry, of Hull. Improvements in stoppers and bottles for aërated and other liquids, jars, and similar articles. Dated Sept. 21, 1874.

Specifications published during the month:—

Postage 1*d.* each extra.  
1874.

2160. B. Hunt. Preserving food. 6*d.*  
2486. T. Coad. Stoppers for bottles. 8*d.*  
2547. R. Giebertmann. Superphosphate of lime. 8*d.*  
2568. H. Y. D. Scott. Phosphate salts. 4*d.*  
2824. S. Nield and another. Manufacture of prussiate of potash. 10*d.*  
2939. J. H. Johnson. Manufacture of soda and potash. 4*d.*



## BANKRUPTCY.

FENWICK, THOMAS W., Stamford, Lincolnshire, chemist. Mar. 20.

## BANKRUPTCY ANNULLED.

FAUCHEUX, FERDINAND T. (Jan. 14), 96 Southampton Row, chemist.

## LIQUIDATIONS.

(By arrangement or composition.)

Notices of first meetings have been issued in re the following estates. The dates are those of the petitions:—

- BILHAM, JAMES, Jonson Place, Harrow Road, late Westbourne Park Place, Paddington Green, surgeon. Mar. 10.
- HILLIER, HENRY B. C., Leckhampton, Gloucestershire, surgeon. Mar. 13.
- KIRKES, CHARLES AUGUSTUS, Market Hill, late North End, both Buckingham, dentist. April 2.
- KEMP, GEORGE, Sheffield, surgeon. Mar. 19.
- LAWRENCE, GEORGE R., Towcester, Northamptonshire, surgeon. April 1.
- MORGANS, ALFRED E., Minehead, Somerset, chemical manufacturer. Mar. 12.
- NEWMAN, ALFRED A., Shardlow, Derbyshire, condensed milk manufacturer. Mar. 9.
- RICKETTS, FREDERICK W., 120 Mount Pleasant, Liverpool, surgeon. Mar. 25.
- ROSE, ISAAC BOWMAN, & ROSE, RICHARD, trading as Rose & Co., St. Helen's, confectioners and chemical manufacturers. Mar. 8.
- STEPHENS, EDMUND THOMAS, Clarence Street, surgeon. Mar. 10.
- TAYLOR, DAVID, Broadway, Bradford, chemist, and Bradford, coal merchant. Mar. 17.
- WARNE, JOHN MARTIN, Camborne, Cornwall, chemist. Mar. 20.
- WILLIAMS, WILLIAM C. H., Richmond Place, Brighton, veterinary surgeon. Mar. 22.
- WRIGHT, MORDEN, 128 Walworth Road, surgeon. Mar. 9.

## PARTNERSHIPS DISSOLVED.

- BATTY & SCOVES, Great Yarmouth, oil merchants and drysalers. Mar. 1.
- CARTWRIGHT & COLEMAN, Old Burlington Street, dental surgeons. Feb. 27.
- FARMER & RODGER, Fazeley Street, Birmingham, crucible manufacturers. Feb. 10.
- GARB, A. W. & J. E., Cheltenham, surgeons. Mar. 1.
- GRIFFITHS, BETTISON & DONKIN, trading as The Silicate Paint Company, Liverpool. Mar. 19. As regards Edward F. Donkin.
- PAVINEAU & BECKLES, 188 Fenchurch Street, dealers in chemicals. Feb. 9.
- Debts by Charles R. Papineau.
- RILEY & HORNER, Waterlough, Southwortham, Halifax, manufacturing chemists. Feb. 19.
- SANDS, W. H. & Co., Leeds, oil merchants and drysalers. Mar. 17. As regards James Ekeley.
- TURNER & BINGHAM, Alfreton, Derbyshire, surgeons. Nov. 25.
- TYLER & Co., 106 Long Lane, Bermondsey, chemists. Mar. 10.
- WADAMS & GEORGE, Malvern, surgeons. Dec. 31.

## DIVIDENDS DECLARED.

- BRADSHAW, DAVID (Esq.), Manchester, drysaler. 1st and final div., 8*d.*; J. Edgar, 18 Bond Street, Manchester.
- QUINAN, EDWARD J., Harcourt Street, Dublin, medical doctor. Mar. 25; 1st and final, 6*d.* 6*d.* in the pound.

## BANKRUPTCY CLOSED.

- BENNETT, SIDNEY, 13 Queen Street, May Fair, orthopedic practitioner. (Divs. amounting to 4*d.* have been paid.) Bankruptcy closed Mar. 2.



**TERMS.**—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of the CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of the CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C." the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

### FOR DISPOSAL.

Salmon's patent incubator, 20s.; lady's walnut work table, in-laid, 30s. Thornley, Stow-on-the-Mold.

Shallow pill boxes, 10,000 gross, cheap. Bell, Chesshire & Co., Wholesale Druggists, Brixton.

½-oz. finest Assam grain musk, 50s.; "Six Home Counties Directory," 1874, 30s. Tully, Chemist, Rotherfield.

"Guide to the Minor," 12 stamps. Alpha, Medical Hall, Rotherfield, Tunbridge Wells.

Muspratt's "Chemistry," well bound, new, cost 70s., sent free to any address for 40s. Thos. M. Bambridge, Market Place, Knaresborough, Yorkshire.

Forceps, 6 pairs upper, 7 pairs lower and stump, 1 tooth key and 2 elevators, in good condition, 45s. the lot. Address F. H. Cumine, Dentist, King's Lynn.

Dow's e-syrup ice cream soda machine, cylinder, glass holders, piping, &c., in capital condition. F. Wheeler, Chemist, Guildford.

CHEMIST AND DRUGGIST for 1873-74; "Pharmaceutical Journal," 1873 (one short), 1874 complete. Offers wanted. Gowen, Ringwood, Hants.

For sale. A small mill for crushing seeds, &c., by Turner, of Ipswich. Apply to R. S. Burgess, Willows & Francis, Wholesale Druggists, 101 High Holborn, London, W.C.

Withering's "British Plants," 4 vols., half-bound, 34 plates, good condition, free to London, 12s.; Babinot's "Botany," good condition, post free, 5s., published 10s. Brown, Amphil.

"Pharmaceutical Journals" from June 1865 to July 1874, one number missing; THE CHEMIST AND DRUGGIST, from 1870 to 1874 inclusive, one number missing. Offers requested. Faulkner, Chemist, Notting Hill, London.

Minor Examination Questions, 30 stamps; ditto Prescriptions, 18 stamps; Botany Note Book for the Minor, 2s. 6d.; ditto Chemistry, 2s. 6d. "B." care of Mr. Tully, Chemist, Rotherfield, Tunbridge Wells.

"Royal Dictionary Cyclopædia," quite new, in 15 divisions, handsomely bound, 2l.; published price, 4l. 17s. 6d.; Moore's "British Wild Flowers," 1s.; Moore's "British Ferns," 9d.; both have a number of coloured plates. Address Chessie, 15 Spencer Street, York.

To be disposed of at a sacrifice. Nest of drawers, mahogany front; 3 doz. lilac jars, 131 doz. shop bottles, all with unvarnished gold labels; counter scales, percolating apparatus, pill machine, 3 carbos, specie jar, portion of stock, &c. Address A. Attwell, 69 Holywell Lane, Shoreditch.

"On Diseases of the Testes," by Curling, quite new; Acton's "Practical Treatise on Diseases of the Generative Organs;" Parker "On Syphilitic Diseases;" Thomas's "Practice of Physics," 2 vols.; "Year Book of Pharmacy," 1870; "Laboratory Text Book of Practical Chemistry," 90 engravings, by W. G. Valentine; "First Principles of Modern Chemistry," by N. J. Kay-Shuttleworth. "Relish," 7 Back Lane, Bradford.

Brass counter-scales, 16-inch mahogany stand, with drawer, in good condition, 16s.; another set, 12-inch stand, 10s.; flat plate counter-scale, 3 feet 2 inches by 2 feet, 25s.; flat glass case, 3 feet by 11 inches, 15s.; 9 1-gallon black tinted bottles, nearly new, with gold labels, 20s.; 4-hole mahogany cigar case, 6s.; deal chest for 20 1-pint bottles, with lock and hinges, 7s. 6d.; perforated metal window screen in wood frame, 3 feet 2 inches by 6 feet 7 inches, 7s. 6d.; about a gross 10-oz. and 20-oz. wide-mouthed flat bottles, 10s. J. Floyd, Bury St. Edmunds.

Post-free.—Reid's "Hypochondriasis," 3s.; Riadore on "Inhalation," 2s.; Hughes's "Ascutation," 2s. 6d.; Basham's "Bright's Disease," 4s.; Dunn's "Physiological Psychology," 2s.; Shaw's "Nervous System," 4s. 6d. (pub. 5s.); Sharp's "Essays on Homoeopathy," 4s. 6d.; Copeland's "Diseases Rectum and Anus," 2s. 6d.; Landou's "Hystérie," 2s.; Marce's "Calculus Disorders," 3s. 6d.; Althaus "On Tumours," 1s. 6d.; Squire's "Three Pharmacopœias," 3s. 6d.; Bennett's "Uterine Pathology," 2s. 6d.; Marshall Hall's "Nervous System," 2s. No Postage.—Quain's "Anatomy," 5s. (pub. 18s.); Andral's "Pathological Anatomy," vol. i, 3s. (pub. 10s.); Gregory's "Outlines Chemistry," 4s.; Bentham's "Flora," new, hundreds of illustrations, 31s. 6d. (cost 3l. 10s.); Smith's "English Flora," vols. i, ii, iv, 5s.; 1 day's "Vogel's Pathological Anatomy," 5s.; Arnott's "Physics," 10s. (pub. 31s. 6d.); Phillip's "Translation P.L., 1836," 3s. 6d. (see also adv. March 15). A. Davis, 161 Seven Sisters Road, London, N.

Nine feet long handsome mahogany wall case, with silvered plate-glass back, 4½ feet high; one 4 feet 2 inches long, 5 feet high; mahogany silvered plate-glass back wall case, similar to Treble's No. 41; two 8 feet long mahogany wall cases, as fig. 200 Maw's list, with silvered plate-glass return end; one 3 foot 2 inches long, one 1 foot 10 inches long mahogany wall cases, 4 feet 4 inches high; two 3 feet 2 inches long mahogany wall cases, 4 feet 6 inches high; one 6 feet long nest; one 1 foot 7 inches long nest; mahogany-fronted gold-labelled shop drawers, containing 55 and 12 drawers in each nest, with mahogany slabs on top, 4 feet 2 inches high; one 6 feet 8 inches long nest 40 gold-labelled shop drawers; one 2½ feet long nest shop drawers, ditto, with lockers under; one 2 feet 10 inches, one 3 feet 2 inches long nest shop drawers, ditto, with lockers under; circular jappanned oil cisterns, 10, 15, 20, 25, 30, 50, 80 gallons; 12 handsome 1 and 2 lb. jujube jars, as fig. 2 Maw's list; 6 handsome show jars, as fig. 6 Maw's list, with gilt glass covers; 8 14-lb. jappanned circular tea canisters; handsome specie jars with "Royal Arms," &c. Lloyd Rayner, 333 Kingsland Road, London, N. For other goods see Miscellaneous Column.

### WANTED.

Griffin's "Chemical Recreations." Exchange or cash. 62/13.

"Year-Book of Pharmacy, 1873." Fuller & Co., Norwich.

THE CHEMIST AND DRUGGIST for August 1873. Frazer & Green, Glasgow.

Tome's "Dental Surgery." State condition and price. W. P. Smith, Chemist, Gosport.

Pindar's Pill Machine. State particulars and cash price. J. Floyd, Bury St. Edmunds.

Six large carbos and specie jars, also bottles and fixtures, &c., in good condition. Alpha, 38 Priory Road, Kilburn.

Good microscope and various secondhand chemical apparatus. Send particulars and price to Barrett, General Hospital, Wolverhampton.



## Trade Memoranda.

MR. JAMES STEWART, of Portishead, has sold his business to Mr. E. F. Frowle, late of Blackheath.

MESSRS. BOURNE & TAYLOR have issued a new catalogue of druggists' sundries, very complete and well illustrated.

MR. JOHN TEBB, of Crowle, has taken the business, 31 Moxon Street, Hull, so long conducted by Mr. J. Windross.

IN CONSEQUENCE of failing sight, Mr. Glyde, of Blandford, has relinquished business. Messrs. Normand and Jackson are his successors.

MESSRS. MILLARD & SONS, of the Barbican, have just published a new and much enlarged edition of their catalogue of patent medicines, druggists' sundries, and shop fittings.

STEDMAN'S TEETHING POWDERS, after a brief advance in price, have again settled down to their original figure, namely, 6s. 6d. per dozen for 1s. 1½d., and 18s. for 2s. 9d.

A NEW LOZENGES.—We have received from Mr. Gibson, of Manchester, a sample of his Fragrant Bouquet Lozenges, very agreeable to the taste and leaving a pleasant perfume to the breath. They will be much appreciated by smokers.

MESSRS. EDWIN BLYDE & Co., of the Charles Lane Works Sheffield, have lately bought the old-established business of Messrs. Allard & Co., surgical instrument, truss, and cutlery manufacturers, of that town, and have removed to the premises of the late firm in Rockingham Street.

THIS is how Mr. Wyndham calls the attention of readers of the *Daily News* to his popular speciality:—"Gertrude M——. Yes, dearest, at the Crystal Palace. Meet me, as arranged, at the pretty little Show Case of Wyndham's 'Esprit des Bûtes,' at 12 o'clock on Thursday next. At foot of staircase leading to Victoria Cross Gallery.—Percy."

THE WELL-KNOWN druggists' sundries and shop-fitting business established and carried on for many years in Manchester by the late Mr. Matthew Tomlinson has taken a fresh departure under the style and title of M. Tomlinson, Nicholson, & Morris. Mr. Nicholson lived for nearly 25 years with Mr. Tomlinson; Mr. Morris was in business at 51 Hardman Street, Manchester.

ELLIS'S SPRINKLING AND DROPPING STOPPERS have been much improved since their first introduction, and now, besides the makers have considerably reduced the price, they are presented in a form nearly approaching perfection. By the simple device of a small groove up the stem of the stopper, the dropping can always be depended on, and yet the cork collar, when the stopper is fitted, is perfectly tight. Made by R. J. Ellis & Co., 6 Castle Street, Holborn.

MESSRS. E. LAZENBY & SON have issued a circular referring to some recent proceedings in North Staffordshire, impugning the purity of their pickles. They announce that if, contrary to their expectations, any further prosecutions should be instituted relating to their preparations, they undertake to defend and indemnify the sellers against all loss, penalties, and costs in respect thereof, provided only that the latter give them immediate notice of the commencement of proceedings, and place the cases unreservedly in the hands of their solicitor. Messrs. Lazenby also add certificates from Professor Atfield and Messrs. Johnson & Son, asserting the absolute purity of their pickles.

KINMOND'S DOUBLE-STRENGTH FLUID MAGNESIA AND TRUE CITRATE OF MAGNESIA.—Messrs. Kinmond & Co., of Leamington, have just brought out a fluid magnesia containing double the quantity of carbonate of magnesia prescribed by the Pharmacopœia or contained in the preparations usually supplied by chemists. Their article is guaranteed to contain 26 grains of carbonate of magnesia to the fluid ounce; and an analysis by Professor Atfield confirms this statement. The advantage of getting this valuable medicine in a more concentrated form is not confined exclusively to economical considerations, though these are of some importance. As Kinmond's bottles are the same size as those usually supplied, it is clear that they are twice as cheap. But the product is valuable also for the advantage of taking a reasonable dose in a moderate compass of liquid.



THE financial statement of the Chancellor of the Exchequer is to be made this night, the 15th. No changes of any striking character are to be anticipated, and it is to be hoped that Sir Stafford Northcote will have the courage for once in a while to let things alone. In his last budget he estimated the revenue at 74,425,000*l.*; it has produced 74,921,873*l.* He took the expenditure at 73,962,000*l.*; it has been 74,328,040*l.* The surplus is 593,833*l.*, i.e. 131,833*l.* more than he expected. This year the expenditure, according to the estimates on the table of the House of Commons, will be under 75,250,000*l.* By leaving the taxes exactly as they are, it may be fairly anticipated that the "normal increase" (to use Mr. Gladstone's phrase) will about meet this sum. We have looked and hoped so long for a year when this enormous expense might be curtailed in some appreciable manner that we have no more any hope left of such a result.

The reduction in the declared value of the exports of British and Irish merchandise last month was more important than that which occurred in February, amounting as it did to 1,494,591*l.*, being the difference between 18,606,223*l.* and 20,100,814*l.*, the amount in the corresponding month last year. Most of the textile fabrics and several of the more miscellaneous articles contributed towards this unfavourable result, but the most potential in this respect were again iron and coals.

In the chemical trade a fair average of orders has been forthcoming, and, for the present, manufacturers have ceased their complaints. The strike at Newcastle has been concluded by the arbitration of Mr. Brassey, M.P., whose decision was unfavourable to the workmen.

In consequence of the Easter holidays, there was an interval of three weeks between the drug sales. At those held last week, therefore, a larger quantity of produce than usual was brought forward. The demand was, however, also considerable for the principal articles, and fully previous prices were obtained for cardamoms (of which only a moderate supply was offered), gums ammoniacum, arabic, benjamin, and myrrh, ipecacuanha, jalap, musk, senna, Japan, vegetable and Jamaica beeswax. Cubels, rhubarb, sarsaparilla, nux vomica, and vanilla were dearer, but croton seed, guinea grains, and lemongrass oil lower.

A case containing 2,986 boxes of Japanese tooth-powder was put up, but bought in at 28s. per 1,000 boxes.

These boxes were put up in very pretty and ornamental style, and the powder was pleasant. Perhaps some reader might be disposed to speculate. Messrs. Lewis & Peat, 11 Mining Lane, were the brokers.

Opium remains firm, though there is no particular demand. The price of guinea has advanced to 7s. for English, 6s. 9d. for French. This is owing to the scarcity of Calisaya bark. Any appearing on the market would command a high figure. A statement has been made that the English lavender and peppermint crops are likely to be very short, and that therefore a considerable advance may be looked for in the price of the oils.

It is to be hoped that English manufacturers will not neglect the opportunity which the Philadelphia Exhibition will offer next year of extending relations with the United States. We hear that German chemical manufacturers are likely to be well represented, and it cannot be doubted that the influence of a grand display on that occasion will be very considerable with Americans, who are already too much disposed to make their purchases elsewhere.

THE BUSINESS of Messrs. Jacob Stower & Sons, British wine manufacturers, is to be formed into a limited company with a capital of 50,000*l.*, in shares of 5*l.* each. It is stated that the sales of the firm during the past six years have averaged 40,000 gallons per annum.

## Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mining Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

## CHEMICALS.

	1875.	1874.
<b>ACIDS—</b>		
Acetic ..... per lb.	5. 4	5. 4
Citric ..... per lb.	5. 0	5. 0
Hydrochloric ..... per lb.	5. 0	5. 0
Nitric ..... per lb.	5. 0	5. 0
Oxalic ..... per lb.	5. 0	5. 0
Sulphuric ..... per lb.	5. 0	5. 0
Tartaric crystal, ..	1. 6	1. 6
powdered, ..	1. 6	1. 6
<b>ANTIMONY</b> ore, .. per ton	250 0	250 0
crude, .. per cwt.	36 0	36 0
regulus, ..	0 0	0 0
star, ..	54 0	54 0
<b>ARSENIC</b> , lumpy, ..	25 0	25 0
powder, ..	15 6	15 6
<b>BRIMSTONE</b> , rough, .. per ton	155 0	155 0
roll, .. per cwt.	10 16	10 16
four, ..	11 6	11 6
<b>IODINE</b> , dry, .. per oz.	0 83	0 83
<b>IVORY BLACK</b> , dry, .. per cwt.	8 6	8 6
<b>MAGNESIA</b> , calcined, .. per cwt.	1 6	1 6
<b>MERCURY</b> , .. per bottle	800 0	800 0
<b>MINIUM</b> , red, .. per cwt.	24 6	25 0
orange, ..	37 0	37 0
<b>PRECIPITATE</b> , red, .. per lb.	5 7	5 7
white, ..	5 6	5 6
<b>PRUSSIAN BLUE</b> , ..	0 0	0 0
<b>SALTS—</b>		
Alum ..... per ton	157 6	162 6
powder, ..	177 6	180 0
<b>AMMONIA</b> , ..	0 0	0 0
Carbonate, .. per lb.	0 7	0 7
Hydrochlorate, crude, ..	0 0	0 0
white, .. per ton	640 0	650 0
<b>Sulphate</b> , .. per ton	375 0	380 0
<b>Argol</b> , Cape, .. per cwt.	90 0	96 0
Red, ..	75 0	80 0
<b>Operto</b> , red, ..	34 0	35 0
<b>Sicily</b> , ..	60 0	65 0
<b>Asbes</b> (see Potash and Soda)		
Bleaching powd., .. per cwt.	10 3	10 0
<b>Borax</b> , crude, ..	40 0	60 0
British refind., ..	56 0	57 0
<b>Calomel</b> , .. per lb.	5 1	5 9
<b>Copper</b> , ..		
Sulphate, .. per cwt.	25 3	26 0
Copperas, green, .. per ton	65 0	70 0
Corrosive Sublimate p. lb.	4 3	5 0
<b>Cr. Tartar</b> , French, p. cwt.	113 0	114 0
brown, ..	92 6	98 0
<b>Epsom Salts</b> , .. per cwt.	6 6	6 0
Glauber Salts, ..	6 6	4 6
<b>Lime</b> , ..		
Acetate, white, per cwt.	11 0	20 0
Carbonate, .. per lb.	42 6	45 0
<b>Potash</b> , ..		
Bichromate, .. per lb.	0 6	0 6
Carbonate, ..		
Potashes, Canada, 1st		
sort, .. per cwt.	34 0	34 6
Potashes, Canada, 1st		
sort, .. per cwt.	40 0	41 0
Chlorate, .. per lb.	0 9	1 0
Prussiate, ..	1 1	1 1
red, ..	3 2	3 3
<b>Tartate</b> (see Argol and Cream of Tartar)		
<b>Potassium</b> , ..		
Chloride, .. per cwt.	7 0	6 9
Iodide, .. per lb.	11 0	15 0
<b>Quinine</b> , ..		
Sulphate, British, in		
bottles, .. per oz.	7 0	7 6
Sulphate, French, ..	6 9	7 6
Sul Actos, .. per lb.	0 9	0 10
Sul Ammonic, Brit. cwt.	44 0	45 0
<b>Saltpetre</b> , ..		
Bengal, 6 per cent, or		
under, .. per cwt.	19 0	20 6
Bengal, over 6 per cent,		
per cwt.	17 6	18 9
British, refined, ..	23 9	25 0
Soda: Bicarbonate, p. cwt.	14 6	14 9
Carbonate, ..		
Soda Ash, .. per deg.	0 2	0 2
Soda Crystals, per ton	100 0	105 0
Hyposulphite, per cwt.	0 0	0 0
Nitrate, .. per cwt.	13 0	13 8
<b>SUGAR OF LEAD</b> , White, cwt.	42 0	44 0
<b>SUGAR OF LEAD</b> , Brown, cwt.	32 0	33 0
<b>SULPHUR</b> (see Brimstone)		

	1875.	1874.
<b>VERDIGRIS</b> ..... per lb.	1 1	1 5
<b>VERMILION</b> , English, ..	4 8	0 0
China, ..	0 0	0 0
<b>DRUGS.</b>		
Alces, Hepatic, .. per cwt.	60 0	180 0
Socotrine, ..	90 0	200 0
Caps, good, ..	35 0	36 0
Infierior, ..	29 0	34 0
Barbadoes, ..	65 0	180 0
<b>AMBERGRIS</b> , grey, .. per oz.	70 0	90 0
<b>BALSAM—</b>		
Canada, .. per lb.	1 9	0 0
Capivi, ..	2 10	3 0
Perru, ..	6 0	6 6
Tolu, ..	5 9	6 0
<b>BARBS—</b>		
Canada alba, .. per cwt.	16 0	27 0
Cassoria, ..	19 0	22 0
Perru, crown & grey per lb.	0 9	2 5
Calisyra, flat, ..	3 0	3 6
Pisayo, ..	3 0	4 2
Carthagina, ..	0 6	1 8
E. I., ..	1 0	4 0
Birds, ..	1 0	4 0
Buchu Leaves, ..	0 2	1 1
<b>CAMPBORA</b> , China, .. per cwt.	70 0	77 6
Refin. Eng. per lb.	1 1	0 0
<b>CANTHARIDES</b> , ..	2 9	5 0
<b>CHAMOMILE FLOWERS</b> , ..	3 0	3 0
<b>CORONARY</b> , ..	6 0	24 0
<b>DRAGON'S BLOOD</b> , p. cwt.	80 0	200 0
<b>FRUITS AND SEEDS</b> (see also Seeds and Spices).		
Anise, China Star per cwt.	110 0	117 6
Spainish, ..	30 0	35 0
Beans, Tongkin, .. per lb.	1 9	3 0
Cardamoms, Malabar		
good, ..	3 6	5 0
inferior, ..	2 0	3 5
Madras, ..	2 9	4 0
Ceylon, ..	5 8	6 10
<b>CASIA FISTULA</b> , .. per cwt.	12 6	15 0
Caster Seeds, ..	7 0	11 6
Crocus Indicus, ..	14 0	16 0
Colony, apple, .. per lb.	7 1	11 0
<b>CROTON SEEDS</b> , .. per cwt.	41 0	0 0
Cubels, ..	21 6	23 0
Cumin, ..	16 0	21 0
Dry, ..	11 0	12 0
Fennigreek, ..	8 0	16 0
Guinea Grains, ..	25 0	0 0
Juniper Berries, ..	10 0	17 0
Nux, ..	18 0	20 0
<b>TAMARINDS</b> , East India, ..	18 0	20 0
West India, ..	11 0	18 0
<b>VANILLA</b> , large, .. per lb.	50 0	59 0
inferior, ..	50 0	59 0
Wormseed, .. per cwt.	0 0	0 0
<b>GINGER</b> , Preserved, per lb.	4 0	4 7
<b>HONEY</b> , Chili, .. per lb.	44 0	62 0
Jamaica, ..	48 0	58 0
Australian, ..	40 0	56 0
<b>IRIGLASS</b> , Brazil, ..	3 0	5 0
Tongue sort, ..	3 0	5 0
East India, ..	1 0	5 1
West India, ..	4 8	5 2
<b>Russ</b> , long staple, ..	13 0	16 0
inferior, ..	0 0	0 0
Simova, ..	0 3	0 10
<b>JALAP</b> , good, ..	0 3	0 10
infer. & atoms, ..	0 5	0 10
<b>LEMON JUICE</b> , .. per degree	0 2	0 2
Lime Juice, ..	0 2	0 10
<b>LIQUORICE</b> , Spanish per cwt.	40 0	70 0
Liquorice Root, ..	11 0	16 0
<b>MANNA</b> , hoky, .. per lb.	4 6	5 6
small, ..	6 6	7 9
<b>MUSK</b> , Pad., .. per oz.	13 0	46 0
Grain, ..	46 0	60 0
<b>OILS</b> (see also separate list)		
Almond, expressed per lb.	1 1	0 0
Caster, 1st pale, ..	0 4	0 5
second, ..	0 3	0 5
Liver & dark, ..	0 3	0 4
Cod Liver, .. per gall.	6 6	7 9
<b>CROTON</b> , .. per oz.	0 3	0 4
<b>Essential Oils:</b>		
Almond, .. per lb.	24 0	0 0
Anise-seed, ..	9 0	0 0
Bay, .. per cwt.	0 0	0 0
Bergamot, .. per lb.	10 0	25 0
Cajeput, .. per bottle	1 2	1 2
Caraway, .. per lb.	7 0	9 6
Cassia, ..	4 4	4 5
Cinnamon, .. per oz.	0 2	0 6
Cinnamon-leat, ..	0 2	0 3
Citronelle, ..	0 12	0 13
Clove, .. per lb.	10 6	0 0
Juniper, ..	1 0	1 0
Lavender, .. per lb.	1 10	5 0
Lemon, ..	7 0	11 6



1875.				1874.			
Essential Oils, continued:—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Almond, sweet, per oz.	0	0	0	0	0	0	0
Neroli .....	1	0	0	0	0	0	0
Orange, .....	0	0	0	0	0	0	0
Other, .....	0	0	0	0	0	0	0
Other, .....	0	0	0	0	0	0	0
Patchouli .....	2	9	4	0	3	6	4
Peppermint:—							
American, .....	32	0	24	30	0	22	0
English .....	32	0	36	29	0	32	0
Rosemary .....	1	4	10	1	4	10	10
Sassafras .....	12	0	13	12	0	13	0
Spearmin .....	12	0	13	12	0	13	0
Thyme .....	1	9	2	1	9	2	0
Mace, expressed, per oz.	0	24	0	0	3	0	3
OPTUM, Turkey, .....	20	0	41	0	0	0	0
inferior .....	20	0	35	0	0	0	0
QUASSIA (bitter wood) per ton	240	0	255	0	0	0	0
RUBIARD, China, good and fine .....	111	5	9	3	0	4	6
Good, mid. to ord. ..	0	3	1	0	6	2	6
Dutch trimmed ..	0	0	0	0	0	0	0
Russian .....	0	0	0	0	0	0	0
ROOTS—Galambra, per cwt.	18	0	22	0	8	0	18
China .....	18	0	20	0	18	0	24
Gaengal .....	23	0	24	0	25	0	26
Gentian .....	23	0	24	0	25	0	26
Helabor .....	30	0	33	0	30	0	33
Orris .....	26	0	30	0	36	0	38
Pellitory .....	28	0	30	0	38	0	39
Pink .....	0	10	1	0	1	0	1
Rhany .....	0	4	0	0	5	0	11
Sassafras .....	2	10	3	0	1	0	1
Snake .....	0	10	8	0	1	0	1
SAFFRON, Spanish ..	18	0	21	0	24	0	28
SALIP .....	0	0	0	150	0	200	0
SARAFAMBA, Lima, per cwt.	0	0	0	0	0	0	0
Para .....	0	0	0	0	0	0	0
Honduras .....	1	10	2	0	1	2	7
Jamaica .....	2	0	2	0	2	0	2
SASSAFRAS .....	0	0	0	13	0	16	0
SCAMMONT, Virgin, per lb.	25	0	36	0	25	0	30
second & ordinary ..	7	0	24	0	8	0	24
SENA, Bombay .....	0	1	1	0	1	1	0
Thinly .....	0	1	0	0	1	1	0
Alexandria .....	0	6	2	0	4	1	5
SPERMACEET, refined ..	1	1	0	1	4	1	4
American .....	1	1	0	1	0	1	1
SQUILLS .....	0	3	0	0	11	0	2
GUMS.							
AMMONIAC drop, per cwt.	4	15	6	3	0	3	0
lump .....	3	10	4	2	0	3	0
ANDI, fine washed ..	4	15	10	3	0	13	10
bold scraped .....	10	15	13	7	0	11	0
sorts .....	6	10	10	5	0	10	0
dark .....	5	10	0	4	0	4	15
ARABIC, E.I., fine pale picked ..	2	15	3	0	0	3	17
sorts, mid. to fin. ..	1	16	2	0	0	2	18
serlings .....	0	1	2	0	0	2	0
TURKEY, picked to fin. ..	7	0	11	0	7	10	11
second & inf. .....	1	0	0	2	0	1	0
In sorts .....	1	10	2	0	2	10	3
Godia .....	1	0	1	0	1	1	15
BARBARY, white ..	1	0	0	1	10	2	5
brown .....	1	6	0	1	12	1	6
AUSTRALIAN .....	1	10	0	1	8	3	8
ASAPETIDA, cm. to fin. ..	0	9	2	0	2	15	3
BENJAMIN, 1st & 2nd ..	20	0	39	0	9	24	0
Sumatra 1st & 2nd ..	7	10	12	0	7	10	12
3rd .....	2	7	6	0	4	7	6
COPAL, Angola rod ..	5	10	4	0	5	15	6
Benguella .....	0	15	4	0	5	10	15
Sterra Leone, per lb.	0	6	4	0	4	0	10
Manilla .....	27	0	33	0	15	0	23
MAMMA, pale .....	60	0	62	0	41	0	42
Singapore .....	11	0	63	0	40	0	45
EUPHORBUM .....	11	0	15	0	11	0	15
GALBANUM .....	0	11	1	0	1	6	2
GAMBAGE, pckd, pipe per cwt.	130	0	280	0	225	0	320
GLACIUM .....	0	8	2	0	6	0	8
KINO .....	0	0	0	0	0	0	0
KOWRIE, rough .....	30	0	60	0	20	0	35
scraped sorts .....	2	0	2	0	3	0	3
MASTIC, picked .....	4	6	6	0	5	0	6
MYRRH, gld. & fine per cwt.	119	0	280	0	120	0	240
ord. to fair .....	20	0	275	0	80	0	110
OLIBANUM, p. drop ..	60	0	65	0	70	0	75
amber & ylw. .....	53	0	59	0	62	0	68
serlings .....	20	0	39	0	22	0	38
SENEGAL .....	2	0	2	0	3	0	3
SANDARAC .....	97	0	105	0	70	0	105
SHEELAC, Orange .....	240	0	285	0	240	0	260
Liver .....	21	0	22	0	19	0	20
THUS .....	21	0	22	0	19	0	20
TRIACANTH, leaf .....	230	0	390	0	200	0	400
in sorts .....	30	0	190	0	30	0	150
OILS.							
SEAL, pale .....	36	0	0	36	0	37	0
yellow to tinged ..	33	0	34	0	32	0	36
BROWN .....	112	0	0	105	0	0	0
SPEM .....	41	0	0	0	0	0	0
COD .....	41	0	0	0	0	0	0

Oils, continued:—		1875.		1874.		
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
WHALE, South Sea, pale, per ton	35	0	30	33	0	0
yellow .....	28	10	34	32	10	33
brown .....	26	0	28	30	0	31
East India, Fish ..	22	15	23	0	27	0
OLIVE, Gallipoli .....	37	15	0	46	0	0
Trieste .....	42	10	0	44	0	0
Levant .....	41	0	41	5	39	10
Mogador .....	40	5	40	10	39	0
Spanish .....	0	0	0	41	0	0
Sicily .....	43	0	0	41	0	0
COCONUT, Coch. ....	43	15	44	0	39	10
Ceylon .....	37	15	38	0	35	10
Sydney .....	37	0	38	0	31	0
GROUND NUT and GINGELY:—						
Bombay .....	0	0	0	0	0	0
Madras .....	34	0	0	36	0	0
PALM, fine .....	34	0	0	35	0	35
LINSEED .....	25	15	26	0	29	10
RAPSEED, English, pale ..	22	0	0	23	0	24
brown .....	30	0	0	32	0	34
Foreign, pale .....	33	10	34	0	34	0
brown .....	0	0	0	0	0	0
COTTONSEED .....	26	0	0	27	5	26
LAND .....	70	0	0	48	0	50
TALLOW .....	22	0	28	0	27	0
TURPENTINE, American, pale ..	25	0	0	32	0	33
French .....	0	0	0	32	0	33
PETROLEUM, Crude .....	0	0	0	0	0	0
refined, per gall. ....	0	10	0	11	0	11
Spirit .....	0	9	0	10	0	10
SEEDS.						
CANARY .....	160	0	0	60	0	68
CARAWAY, English per cwt.	0	0	0	39	0	44
CORIANDER, German, &c. ....	18	0	29	0	26	0
HEMP .....	8	0	18	0	8	16
LINSEED, English per gr. ....	0	0	0	58	0	61
Black Sea & Azof ..	55	0	56	0	58	0
Calcutta .....	59	0	60	0	60	0
Bombay .....	60	0	61	0	63	0
St. Petersburg .....	54	0	56	0	56	0
Mustard, brown, per bushl.	0	0	0	10	16	15
white .....	12	0	12	0	11	0
POPPY, East India, per qr.	52	0	0	65	6	66
SPICES.						
CASSIA LIGNEA, per cwt.	57	0	75	0	70	0
Vera .....	24	0	50	0	30	0
Buds .....	120	0	122	6	115	0
CINNAMON, Ceylon:—						
1st quality .....	2	9	4	2	0	4
2nd do. ....	2	0	3	1	8	3
3rd do. ....	2	0	2	0	0	0
Tellicherry .....	3	0	3	0	0	0
Cloves, Penang .....	2	1	2	1	2	2
Amboy .....	1	8	1	1	8	1
Zanzibar .....	1	6	1	1	6	1
GINGER, Jam., fine per cwt.	105	0	200	0	110	0
Ord. to good .....	75	0	100	0	66	0
African .....	58	0	0	51	0	0
Bengal .....	48	0	55	0	53	0
Malabar .....	50	0	0	50	0	0
Cochin .....	79	0	127	6	70	0
Pepper, Bk., Malabar, per lb.	0	6	0	0	8	0
Singapore .....	0	6	0	0	7	0
White Tellicherry ..	0	11	1	6	2	0
Cayenne .....	1	6	3	1	1	0
MACE, 1st quality ..	0	8	7	3	6	4
2nd and inferior ..	1	7	2	11	2	11
NUTMEGS, 75 to 80 to lb.	3	3	4	3	4	3
80 to 88 ..	2	9	3	6	8	7
120 to 95 ..	1	1	6	3	6	3
Pimento .....	0	3	0	0	22	0
VARIOUS PRODUCTS						
CHINA						
Honduras, black .. per lb.	1	10	2	1	1	3
“ silver ..	1	9	2	1	1	2
“ pasty ..	1	8	0	1	9	2
Mexican, black ..	2	2	2	2	2	3
“ silver ..	1	7	0	1	11	2
Tenerife, black ..	1	9	3	2	1	3
St. Domingo ..	2	9	2	2	9	2
SOAP, Castile .....	33	0	34	0	33	0
SPONGE, Turck, in pkd, pr lb.	12	0	16	0	12	0
Fair to good ..	4	0	11	0	4	0
Ordinary .....	3	0	8	0	3	0
Bahama .....	0	6	3	0	6	3
TERRA JAPONICA—						
Gambier .....	26	3	26	6	24	0
Free cubes .....	40	0	44	0	34	0
Cutch .....	28	6	30	0	20	6
Woods, Dry, Bar .. per ton	43	6	40	0	43	10
Brass, French ..	2	0	2	0	2	0
“ Logs .....	9	0	16	0	9	0
Cum .....	3	3	40	0	18	0
Free Cut .....	9	10	9	7	9	10
Jamaica .....	8	10	9	5	7	0
Logwood, Campeachy ..	10	0	10	10	9	10
Honduras .....	0	0	0	10	10	15
St. Domingo ..	0	0	0	15	0	0
Jamaica .....	6	2	6	15	0	6
LIMA, first pile .....	13	0	14	0	12	10



CORRESPONDENTS will please observe that the Editor cannot undertake to send private replies to the class of queries which are answered in this page. He will be much obliged if readers will communicate items for this department as well as draw from it. All communications should give (in confidence) the name and address of the writer, though *non de plume* may be adopted. No query can be answered in the current month which reaches this office after the 10th.

**Tota.**—In the Act of 56 Geo. III., c. 53, it is provided by section 3, that if any *druggist, dealer in drugs, chemist, or other person, send, deliver, or sell* to any brewer, retailer of or dealer in beer, knowing him to be licensed, or reputed so to be, or to any other person on account of such brewer, &c., any liquor known by the name of *colouring*, from whatever materials made, or any preparation other than unground malt, for darkening the colour of beer, or any liquor or preparation, whether to be used in wort or beer, as a substitute for malt or hops, he shall forfeit 500l. for every offence, together with the prohibited articles.

**Chemica.**—We certainly do not think that any firm could establish a trade-mark proprietorship in the title "Hair Restorer." This is very different to a fancy name coined by the inventor of an article. We see no legal objection to your descriptions of the preparation.

**Charles** wants: "a formula for a Hair Restorer (not a dye) that does not contain lead or any other ingredient, and that will produce a really natural shade." Besides the small difficulty of not knowing precisely the tint which Charles would consider "a really natural shade," we find ourselves quite unable to offer the formula for any preparation which should be altogether free from ingredients.

**W. B.** asks us if we can tell him the name of a medicine, clear like water and sold in small bottles, for the cure of chest and throat complaints, which he bought some forty years ago at a chemist's shop near the Royal Exchange. Does he think Daniel sits in this chair? But the medicine, he thinks, saved his life. So if this should catch the eye of the maker thereof there's a grand testimonial awaiting him.

Vague and useless questions seem to predominate this month. **L. S.** asks, "How may I obtain a situation as a chemist's assistant in Venice in Italy?" This gentleman, we should think, is possessed with the spirit of Coleridge, who, with some other friends, disgusted with the monotony of English life, pecked up their worldly goods and started for the banks of the Susquehanna because they thought the name was pretty.

The next gentleman is more utilitarian in his desires. A formula for paste blacking is what **A. B. C.** is pining for. Cooley says, an "excellent" one is that patented by Bryant & James in 1856. It is to dissolve 18 oz. indiarubber (in small pieces) in 1 gallon of hot rape oil; to the solution add ivory black in very fine powder 60 lbs., treacle 45 lbs.; mix thoroughly, and then add 1 lb. powdered gum arabic dissolved in 5 quarts of vinegar (No. 24). Grind to a smooth paste in a colour mill, and add gradually 12 lbs. oil of vitriol. Stir the mass daily for a week, when it will be fit for use.

**W. W.**—We do not know of any work on the manufacture of aerated waters, except the treatises published by all the makers of aerated water machinery, some of which are very useful.

**J. E. S.**—"Church's Laboratory Guide" (Van Voort) is especially designed for students of agricultural chemistry, and treats on the analysis of soils, &c.

**A Subscriber.**—An apothecary or anybody else may legally perform a surgical operation; but if he causes injury through ignorance or carelessness he is liable to an action. So, indeed, is a fully qualified surgeon. We are not sure whether an apothecary could recover fees in a court of law for surgical work, but certainly an unregistered person could not. Your second question is not clear. Any man calling himself surgeon and not being so is liable to prosecution; but he is not liable for what other people may call him.

**J. G.**—Your "chlorodyne" is, we should say, undoubtedly liable to stamp duty; though, as you do not send us a label nor tell us how you word it, it is not very easy to answer your question explicitly. Any secret medicine, any compound remedy of which you profess to hold the exclusive right of preparation, and any preparation which is recommended on the label, or by any form of advertisement, for the relief of any disease, is liable to the stamp. But you may attach a fancy name to a medicine, or even a descriptive name, without incurring the liability. Thus, e.g., a label may read, "Cough mixture; a teaspoonful for a dose, &c.," but if it ran: "Mixture for coughs," or "Cough mixture, an excellent remedy, for, &c.," it would require a stamp.

**Vinegar** wants a cement for mending broken composition mortars. We have known one used very successfully composed of 1 part of plaster of Paris, mixed with 2 parts of yellow resin, melted, and applied hot.

**H. N. H.**—*Pharmacographia*, by Hanbury and Plücker, published by Macmillan, gives excellent information on the subject of drugs and herbs; but we should hardly dare to say that it comprehends the " &c., &c., &c.," respecting which you wish to be informed.

**Troches** wants a cheap work on the making of lozenges, jububes, &c., in the small way, with formulae. Also, he would like to know where he can get stamps for lozenges. Can some reader oblige with the information?

**Fingra.**—The difference between registration and patents is very briefly this: that the first refers to a design, the second to a principle. Registration is a much more simple affair than a patent. It gives a copyright in a design for three years. The fee and stamp cost 10l. Any materials, metals, textiles, or merely ornaments of any kind are capable of registration. What is required is that there should be some novelty and utility in the form. Registration is effected at the Design Office, where forms of application, giving required particulars, may be obtained. As an illustration of the difference between registration and patenting an article, it may be remarked that a new pair of nutcrackers, involving some novel method of breaking the nuts, would require a patent, while a design for the Channel Tunnel might fitly be registered.

**W. F.**—We refer you to Smith's "Dental Anatomy and Surgery," a small book published by Churchill; or to Tomes's "Manual of Dental Surgery," a larger book published by the same firm.

An esteemed correspondent in America has sent us a very handsome lithograph showing the chief buildings of the Centennial Exposition, Buildings. The main building will be 1,893 feet long, about the length of Cannon Street, and will cover over 20 acres. The architectural effects will be, we judge from these designs, very fine.

A correspondent of the *Scientific American* asks if he can light gas by electricity. The reply is:—"Put on a pair of dry slippers, and walk briskly over a carpet. You will thus charge yourself with electricity, and may light the gas with your finger in dry cold weather."

**G. C.**—We can hardly see the necessity for discussing such extremely crude views as those which have been published in a contemporary, by one who with characteristic obtuseness signs himself "Veritas." Of course it is easy enough to make a fortune if two or three rich uncles should die opportunely, bequeathing handsome legacies, if all investments and speculations should turn out prosperous, and if the candidate for wealth will only keep that one aim and object before him as the purpose of his life. We quite believe that failure is almost universally due to a want of stamina, but we prefer to see a strong man scatter his forces to some extent, not to concentrate them on any one object exclusively, however honourable that object may be.

Some one wrote to us about a month since enclosing a few stamps. The only indication of the origin of the letter was the post-mark "Richmond, Surrey." That gentleman has probably set us down ere this as thieves. If this should catch his eye, perhaps he will kindly write, and we will explain.

**Fuzled.**—Minium is the commercial name for red lead.

**Inquirer.**—In the German *Pharmacopoeia* an "Arsenic Antidote" is ordered. It is to be prepared thus:—

Solution of Persulphate of Soda .. .. .	60 parts
Water .. .. .	120 "
Mix and add .. .. .	
Calcined Magnesia .. .. .	7 "
previously rubbed with .. .. .	
Water .. .. .	120 "

These are to be shaken together until a soft regular mass is obtained. The solution of persulphate of iron is prepared by dissolving 40 parts of Ferri sulph. pur. in 40 parts of aq. dist. Add acid sulph. pur. 7 parts; boil in a porcelain capsule; then add very gradually acid nitric pur. 12 parts, or until the solution does not decolorise a solution of permanganate of potassium. Evaporate to a solid mass, which dissolve in 40 parts of distilled water.

**Nomen.**—According to Hanbury, in *Pharmacographia*, the name Cowhage is Hindustani, and is properly spelt Kiwakh.

**F. P.**—The Chilean Iodine is, or at least was, manufactured in the following manner:—The mother liquors resulting from the manufacture of saltpetre are treated with a mixture of sulphurous acid and sulphite of soda, in proper proportion, and the iodine will be precipitated as a black powder. The precipitated iodine is put into earthen jars, on the bottom of which are layers of quartz sand, fine at the top and coarse at the bottom; from this it is removed by earthen spoons into boxes lined with gypsum, and a greater part of the water thus removed. It is sometimes sold in this impure state, or purified by sublimation.



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